ACRP
REPORT 18

Passenger Air Service
Development Techniques

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

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Passenger Air Service Development Techniques

Steven C. Martin
INTER*VISTAS*-GA² CONSULTING, INC.
Washington, DC

IN ASSOCIATION WITH

VESTA RAE & ASSOCIATES, LLC
Houston, TX

ROBIN LEE MONROE & ASSOCIATES, LLC
Washington, DC

WORDSWORTH COMMUNICATIONS
Wellsboro, PA

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AIRPORT COOPERATIVE RESEARCH PROGRAM

Airports are vital national resources. They serve a key role in transportation of people and goods and in regional, national, and international commerce. They are where the nation's aviation system connects with other modes of transportation and where federal responsibility for managing and regulating air traffic operations intersects with the role of state and local governments that own and operate most airports. Research is necessary to solve common operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the airport industry. The Airport Cooperative Research Program (ACRP) serves as one of the principal means by which the airport industry can develop innovative near-term solutions to meet demands placed on it.

The need for ACRP was identified in *TRB Special Report 272: Airport Research Needs: Cooperative Solutions* in 2003, based on a study sponsored by the Federal Aviation Administration (FAA). The ACRP carries out applied research on problems that are shared by airport operating agencies and are not being adequately addressed by existing federal research programs. It is modeled after the successful National Cooperative Highway Research Program and Transit Cooperative Research Program. The ACRP undertakes research and other technical activities in a variety of airport subject areas, including design, construction, maintenance, operations, safety, security, policy, planning, human resources, and administration. The ACRP provides a forum where airport operators can cooperatively address common operational problems.

The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. The primary participants in the ACRP are (1) an independent governing board, the ACRP Oversight Committee (AOC), appointed by the Secretary of the U.S. Department of Transportation with representation from airport operating agencies, other stakeholders, and relevant industry organizations such as the Airports Council International-North America (ACI-NA), the American Association of Airport Executives (AAAE), the National Association of State Aviation Officials (NASAO), and the Air Transport Association (ATA) as vital links to the airport community; (2) the TRB as program manager and secretariat for the governing board; and (3) the FAA as program sponsor. In October 2005, the FAA executed a contract with the National Academies formally initiating the program.

The ACRP benefits from the cooperation and participation of airport professionals, air carriers, shippers, state and local government officials, equipment and service suppliers, other airport users, and research organizations. Each of these participants has different interests and responsibilities, and each is an integral part of this cooperative research effort.

Research problem statements for the ACRP are solicited periodically but may be submitted to the TRB by anyone at any time. It is the responsibility of the AOC to formulate the research program by identifying the highest priority projects and defining funding levels and expected products.

Once selected, each ACRP project is assigned to an expert panel, appointed by the TRB. Panels include experienced practitioners and research specialists; heavy emphasis is placed on including airport professionals, the intended users of the research products. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, ACRP project panels serve voluntarily without compensation.

Primary emphasis is placed on disseminating ACRP results to the intended end-users of the research: airport operating agencies, service providers, and suppliers. The ACRP produces a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties, and industry associations may arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by airport-industry practitioners.

THE NATIONAL ACADEMIES
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The **National Academy of Sciences** is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. On the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Ralph J. Cicerone is president of the National Academy of Sciences.

The **National Academy of Engineering** was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Charles M. Vest is president of the National Academy of Engineering.

The **Institute of Medicine** was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, on its own initiative, to identify issues of medical care, research, and education. Dr. Harvey V. Fineberg is president of the Institute of Medicine.

The **National Research Council** was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both the Academies and the Institute of Medicine. Dr. Ralph J. Cicerone and Dr. Charles M. Vest are chair and vice chair, respectively, of the National Research Council.

The **Transportation Research Board** is one of six major divisions of the National Research Council. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board's varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation. **www.TRB.org**

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COOPERATIVE RESEARCH PROGRAMS

By Michael R. Salamone
Staff Officer
Transportation Research Board

This guidebook should be of interest to airport managers and local government representatives interested in retaining existing and/or attracting new commercial air service in small communities. It provides information on the air service development (ASD) techniques, tools, and programs that smaller communities have used, including minimum revenue guarantees, guaranteed ticket purchases (i.e., travel banks), cost subsidies, marketing and advertising, and non-financial (i.e., in-kind) contributions, among others. The guidebook is organized into two major sections. The first section discusses the context for ASD, particularly the financial condition of the U.S. aviation industry and the basic underlying competitive challenges that small communities face in retaining or enhancing their commercial air service. The second section discusses how communities can address those challenges, and describes the basic components and tools of an ASD program. The guidebook is intended to help small communities develop and execute an ASD program.

Development of air service is a priority for many communities. Yet, ASD teams have little practical guidance on what techniques exist and which are effective. Air service development includes the attraction, initiation, expansion, retention, or any improvement of air service and can include changes in pricing, frequency, capacity, hub connectivity, or the number of nonstop destinations served. ASD techniques can include incentives; subsidies; guarantees; changes to rates and charges; marketing; cost-reduction measures; airport–community–airline partnerships; reduction of third-party costs, such as ground handling or fueling services; or any other approach taken to encourage development of air service.

Under ACRP Project 03-08, Inter*VISTAS*-ga² Consulting was asked to develop a guidebook that describes techniques that airports and communities can employ in their efforts to develop passenger air service. The guidebook was to include fundamental information to assist airports and the communities they serve in understanding the nature of ASD within the general context of the airport, community, and airline business perspectives.

To accomplish the project objectives, the research team (1) conducted a thorough review of relevant domestic literature, existing research, regulatory requirements, published practical guidance, known techniques, and other appropriate material; (2) collaborated with industry associations (i.e., Airports Council International–North America, American Association of Airport Executives, National Association of State Aviation Officials, Regional Airline Association, and Air Transport Association); (3) interviewed key individuals from the ASD teams of a representative cross section of communities, including airports that have received but no longer receive subsidies from the Essential Air

Service (EAS) program, airports that have received Small Community Air Service Development Program (SCASDP) grants, and airports that have active ASD programs independent of EAS and SCASDP; (4) established the current state of ASD experience in the airport industry; (5) summarized experience to date in assessing existing or potential air service and compiled a comprehensive list of techniques for developing air service; and (6) prepared the guidebook.

CONTENTS

Passenger Air Service Development Techniques

"Air service development" (ASD) is a broad term that encompasses activities with the ultimate goal of retaining existing air service or improving air access and capacity in order to develop the economy of a community or region. For the purposes of this guidebook, ASD involves all activities directly related to enhancing commercial passenger service at an airport. It includes understanding the local community and what drives its economy, and recruiting community and business leaders to participate in efforts to "sell" the community to the airlines. It includes understanding the air service and fares that airlines offer, and how the airport's service, fares, and facility compare to those of nearby airports. ASD also involves understanding the cost and revenue issues that influence carriers' decisions on which markets to serve. It requires understanding how an airport can extend financial and non-financial incentives to carriers—both those already serving the facility (incumbents) and those being recruited. ASD encompasses understanding what carriers value most and what they want to know about a community. It includes knowing how to make and present a sound business case to airlines. And it includes understanding how to evaluate the ASD efforts and revise them as needed.

This guidebook is targeted toward the ASD needs of smaller communities. Many small communities—that is, those communities served by the 426 small- and non-hub airports in the United States—have traditionally had difficulty attracting and retaining service.

The guidebook is organized into two major parts. The first part discusses the context for air service development, particularly the financial condition of the U.S. aviation industry and the basic underlying competitive challenges that small communities face in retaining or enhancing their commercial air service. The second part discusses how communities can address those challenges. Part II lays out the basic components of or steps in an ASD program.

A word of caution: The approaches outlined in this guidebook cannot guarantee success. As everyone in the industry well knows, there are no guarantees in this business. The industry is subject to external forces that will wreak havoc with the best business models.

That being said, there are strategic, proven ways to approach the issue of attracting new service—or simply retaining your existing service. This guidebook is intended to help small communities build and execute an ASD program or improve their existing efforts.

Importance of air service development and what it encompasses

Air service is important for communities because of its value as an economic driver. Adequate air service is a prerequisite for attracting investment and generating employment. Air service is directly related to the amount of economic activity in an area, and additional

flights contribute to a community's economic well being. Losing air service can hamper economic activity and growth. Commercial air service is taken as a "given" in many communities. It should not be.

Since the aviation industry was deregulated in 1978, airlines have largely been free to decide where in the United States they want to operate, how often they want to fly there, with what equipment, and how much they want to charge. Airlines decide which markets they will serve by weighing projected revenue against the estimated cost of providing service. On the revenue side of the equation, airlines focus on the size of the actual and potential market. The cost side of the equation can be staggering. The price of jet fuel has driven up airline operating costs dramatically over the last five years and is now the single largest cost element. Total industry expenses for fuel in 2008 will exceed $50 billion—a remarkable three-fold increase since 2000, even given the recent collapse in the per barrel cost of oil. The importance of airport costs such as landing fees and counter and office rentals cannot be underestimated. Similarly, costs associated with launching service at a new community (e.g., repositioning equipment) can be difficult for carriers to absorb.

Understanding how air carriers decide which communities they will serve is fundamental to developing an ASD program.

Understanding how carriers decide which communities they will serve is fundamental to developing an ASD program. Many carriers look for—and now expect—a community to offer some form of financial risk-sharing in association with new service. Because committing an aircraft to a market represents a large risk of a major asset, the level of local support can be a key factor in airlines' decisions.

Airports and communities can help carriers decide whether to serve their market in a number of ways. They can provide information that the carriers might not otherwise have had, particularly on changes in the local area's economy. They can organize efforts to influence the local demand for travel. They can support development of financial incentives to offer the carrier as a way to share the risk of starting new service. Airports and communities can also actively contribute to incentive programs and provide marketing assistance to airlines. All of these initiatives are ASD techniques, and they are vital for retaining and possibly expanding air service to small communities.

The airport is the natural central stakeholder in any ASD effort. Other key stakeholders will include the major employers in the area and/or the local chamber of commerce, the local economic development agency, and local hotel associations and resorts.

Air service development in context

Most small communities connect to the national aviation system as "spoke cities" served by network airlines—American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, United Airlines, and US Airways. Service at those cities is most often to the carrier's hubs, where passengers can connect to flights to other destinations. Relatively few low-cost carriers (LCCs), such as Southwest Airlines or AirTran Airways, serve small communities because of inherent differences in their business models. Certain niche carriers (e.g., Allegiant Air or USA 3000 Airlines) may serve small communities, but not with the same amount of service provided through a legacy carrier's regional affiliates.

The network carriers' hub-and-spoke systems underscore the important role played by regional airlines in connecting smaller communities to the national aviation network. Regional airlines provide short- and medium-haul scheduled service connecting 635 U.S. communities with larger cities and hub airports. The challenge for airlines is to match the relatively limited passenger demand in those communities (along with its corresponding limited revenue)

with the right amount of capacity, while controlling operating costs. Regional aircraft— generally, those ranging in size from 9 to 108 seats—have typically been used to serve small communities.

Commercial airlines have always struggled to find business models that are viable over the long term, which makes serving small communities especially challenging. The industry has historically experienced pronounced business cycles of profitability and loss. In fact, since the industry's inception, it has failed to generate a long-term positive net operating profit.

To minimize expected losses resulting from soaring fuel costs and a decline in passenger demand in 2008, carriers announced significant reductions in capacity. Carriers decided to ground older, less fuel-efficient aircraft and to reduce flying. Regional jets, with their relatively high operating costs, have been the target of many reductions. Continental and Delta, for example, both announced significant cuts in its regional jet operations. Many smaller communities are losing service. The U.S. Government Accountability Office (GAO) reported that 38 communities lost all commercial service between the fourth quarter of 2007 and the fourth quarter of 2008.

In this environment, ASD is more important than ever simply to retain service. However, it must be undertaken with a realistic understanding of the context in which commercial airlines operate and their ongoing challenge of earning a return on investment.

Many smaller communities have lost service. GAO reported that 38 communities lost all service between the end of 2007 and the end of 2008.

Major competitive challenges to ASD at small communities

Each of the 426 small and non-hub airports in the United States operates under its own unique set of circumstances that further challenge its ability to retain or enhance commercial air service. As a result, almost all small airports suffer from "passenger leakage"—a phenomenon in which passengers bypass the nearest airport and instead choose to fly out of a competing facility. Airports surveyed for this research effort reported that the primary reason they lose business passengers to other nearby airports is the greater range of choices available there—nonstop flights, more convenient arrival and departure times, and more frequent flights. When leisure passengers choose alternative airports, they are most often lured by lower fares. They also prefer airports with nonstop service to their destination.

The major competitive challenges facing small communities include:

- **Proximity to legacy network hub.** Many smaller community airports are relatively close to a legacy network carrier's hub. As a result, passenger traffic that the airport might otherwise have captured drives—aided by easy highway access—to the larger airport, which offers service to more nonstop destinations, with multiple daily frequencies, often using larger aircraft. Attracting new service to smaller markets near a hub can be difficult because carriers realize that passenger leakage to the hub will be difficult to reverse.
- **Proximity to airport with low-cost carrier service.** Similarly, many smaller communities are also close to an airport served by an LCC. Some travelers—especially leisure travelers who typically value fare savings over total travel time—will drive relatively long distances to reach an airport served by Southwest, AirTran, Frontier Airlines, or other LCCs. Attracting new service to these markets can be difficult because carriers realize that unless they can match the LCCs' fares, a portion of the market will continue driving to other airports for LCC service.
- **Small populations that are geographically isolated.** Some smaller communities have difficulty attracting additional air service simply because they draw from an area with a rela-

tively small population and a limited amount of economic activity. Attracting new service to these markets can be challenging. Very small, isolated markets have difficulty supporting more air service. Further, local passengers in such markets are often loyal to the incumbent airlines.

- **Fragmentation of the local passenger traffic base among competing nearby airports.** Other smaller airports may not be in the figurative shadow of a hub or an airport served by an LCC, but they might be close to several other smaller airports that have commercial service. Attracting new service to these markets can be difficult because carriers believe that the overall catchment area is already quite competitive.

- **Predominantly inbound markets that rely on tourism.** Some small communities are located near attractions where tourism and travel demand is seasonal in nature. These attractions may include major national parks (such as Kalispell, Montana, at the western edge of Glacier National Park) or ski resorts (such as Sun Valley, Idaho). Year-round residents of such communities may have abundant (albeit expensive) service during the peak season, but far less service during the off season. Attracting additional service can be difficult for these communities because airlines may not understand the full range of year-round economic activity.

Table S.1 provides examples of some of the primary competitive challenges faced by small community airports.

Smaller communities' airports often face more than one significant challenge. For example, Harrisburg, Pennsylvania, is within a relatively short drive of several major airports, including Washington Dulles (a hub for United also served by JetBlue Airways, Southwest, and Virgin America), Baltimore/Washington (Southwest's largest East Coast operation), and Philadelphia (a hub for US Airways).

Table S.1.   Examples of competitive challenges at selected communities with smaller airports.

Major Competitive Challenge	Communities
Proximity to legacy network hub	Logan, UT Kalamazoo, MI Toledo, OH Rockford, IL Harrisburg, PA Colorado Springs, CO
Proximity to airport with LCC service	Huntington, WV Daytona Beach, FL Santa Rosa, CA Mobile, AL Rockford, IL Harrisburg, PA
Small, isolated communities	Butte, MT Marquette, MI Idaho Falls, ID Victoria, TX Dickinson, ND
Fragmented market	Greenville, NC Ithaca, NY Mobile, AL Lawton, OK Florence, SC Stewart (Newburgh), NY
Predominantly inbound (tourist) market	Hailey, ID Hayden, CO Kalispell, MT

Addressing competitive challenges through an active ASD program

How airports can begin to address those challenges is discussed in Part II of this guidebook, which lays out a systematic approach to ASD. These discussions draw on examples where communities facing each of these situations have been successful in attracting or retaining their air service. Figure S.1 summarizes the major elements of an ASD program.

Assessing Existing Service and Stakeholders

An effective ASD program begins with a realistic assessment of an airport's services and facility to identify how its air service can best be improved.

First, airports need a complete picture of their existing air service and how well it meets the needs of the traveling public. Capturing a complete picture involves analyzing passenger and airline data in their top origin and destination (O&D) markets as well as assessing how convenient and competitive the airport's services and access to the airport are. As part of that, airports should analyze their major route deficiencies—markets that could potentially support, but currently lack, nonstop service. Because smaller communities most often connect to the national aviation system through legacy carriers' networks, analysis of route deficiencies usually means analyzing the community's ability to support nonstop service to a different hub. Different hubs may provide new connecting possibilities (e.g., cities not already served on a one-stop basis) or less circuitous routings to other destinations.

Second, passengers associate the performance and convenience of the air carriers with the desirability of the airport. Examining issues such as air carrier pricing, capacity, aircraft type, and reliability helps to identify and prioritize potential improvements in air service. Airports

All small communities' airports suffer from passenger leakage—most often because of their relatively high fares.
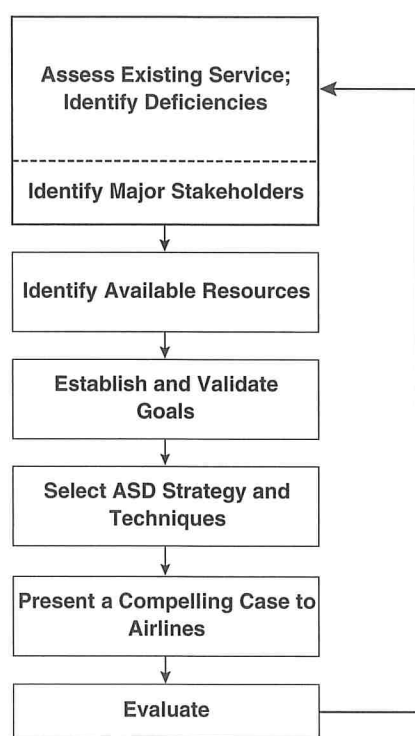
Figure S.1. Overview of the ASD process.

should determine whether the pricing of their service is high relative to that available at other competing airports, whether they are served with adequate capacity (i.e., are flights often oversold?), whether a different aircraft type might be better suited to their markets (e.g., aircraft with a business class cabin), and how reliable the service tends to be.

Airports surveyed reported that the most significant problem they faced were their relatively high fares. (See Figure S.2.)

Airports should also assess the extent to which their infrastructure—on both the air side and the ground side—can influence air service. Comparatively high landing fees, ground handling costs, terminal rents, and other charges may discourage some carriers from operating at a location. Runway lengths and/or obstructions might also limit operations of some aircraft.

The final major component of an airport's assessment requires understanding why passengers choose to fly from its facility and why they might choose another airport (what spurs leakage). Unless an airport has a good grasp of its competitive situation vis-à-vis other nearby airports, it will be impossible to define an effective ASD strategy.

Identifying Available Financial and Human Resources

For an ASD program to have a reasonable chance of success, it must be appropriately supported. Effective ASD needs two types of resources: financial and human.

Two general areas of financing are available to meet an airport's ASD funding needs: revenues generated by the airport itself and revenues derived from other sources, such as private corporations, tourism organizations, and government at various levels.
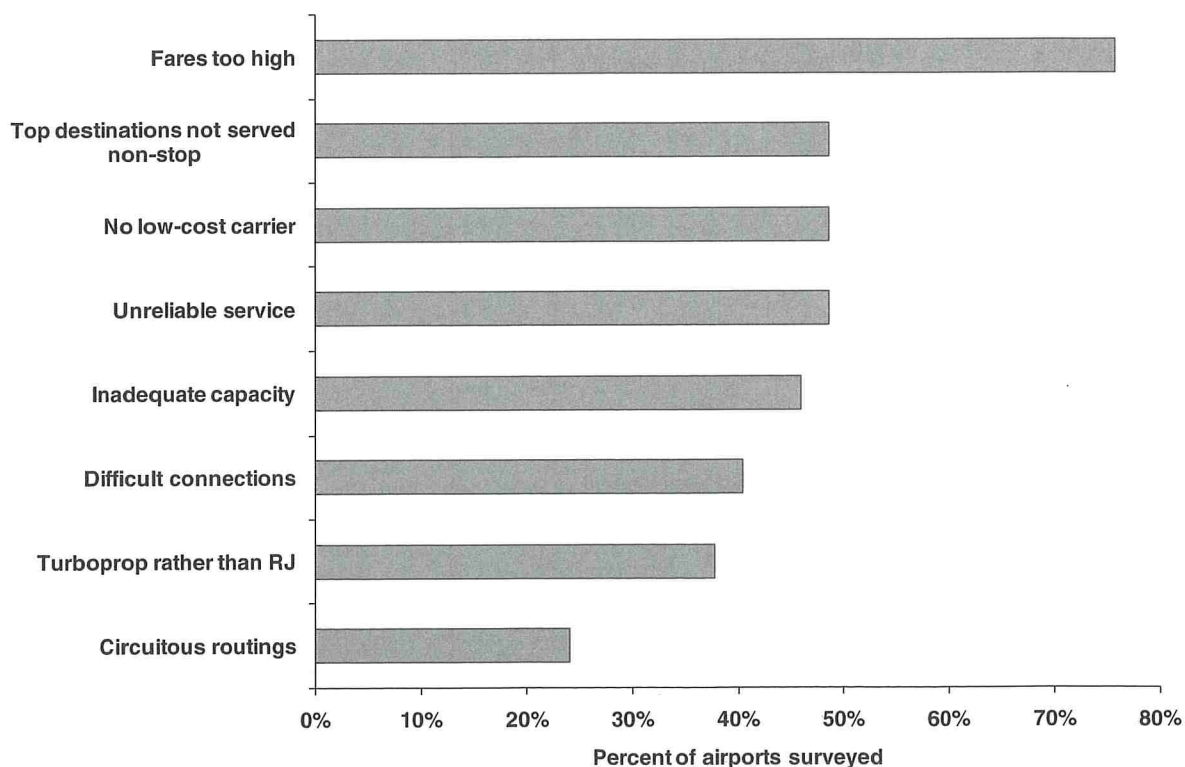
Figure S.2. *Major air service problems identified by small airports.*

Airports have several different sources of potential revenues that could be used to fund an ASD program. Most airports generally fund their ASD programs through their marketing budgets, which ultimately come out of their operations budgets. Those funds are derived from in-terminal revenue sources such as passengers, airlines, concessionaires, and advertisers, as well as non-terminal sources such as air freight companies, maintenance organizations, fixed base operators, aircraft manufacturers, and land rentals. Airports that accept any federal monies are restricted by law, regulation, and various agreements on the use of revenues generated by airport operations. The FAA monitors compliance with applicable policies, guidelines, agreements, and regulations.

Other sources of revenue not derived directly from an airport's operations can also support an ASD program. The most important sources of outside (non-airport) funding are private corporations and related associations. The greater the involvement of private corporations, the greater the likelihood of success in retaining existing or attracting new service. If the business travel needs of corporate employees are not being met, it can be in the best interest of local businesses to support improved air service. Resorts, hotels, convention/visitors bureaus, and area attractions that depend on travel and tourism may financially support ASD efforts.

The federal government has been a major provider of funding for ASD. The Small Community Air Service Development Program (SCASDP) provides grants to help small communities achieve sustainable air service. Through fiscal year 2007, U.S.DOT issued more than 200 SCASDP grants totalling approximately $100 million to small- and non-hub communities. SCASDP grants have ranged from $20,000 to $1.6 million and have funded a wide range of air service initiatives.

The other critical resource that airports absolutely must have for an effective ASD effort is people with the expertise and enthusiasm to help. Most small community airports have capable staff already working at the airport that can fill important needs. But to be successful, ASD efforts usually must rely on a task force that includes other local professionals and outside consultants. The skills and expertise that consultants can bring to ASD issues can be complemented by local professionals who bring the background and insight into the community's strengths.

Table S.2 summarizes how much airports of different sizes devoted annually on their ASD efforts, including contributions from non-airport sources. Reflecting their considerable

Key ASD program elements:
- *The greater the involvement of private corporations in your ASD efforts, the greater the likelihood of success in retaining existing or attracting new service.*
- *ASD efforts usually must rely on a task force that includes other local professionals and outside consultants.*

Table S.2.   Median amount of resources applied to ASD, by hub size and category of assistance.

	Category of ASD Resources			
Hub Size	Airport "Core" Resources [1]	Airport "Extra" Resources [2]	Private Sector Contributions	Federal Contributions
Non-hubs	$53,000	$100,000	$350,000	$500,000
Small hubs	$125,000	$125,000	$250,000	$480,000
All hubs	$70,500	$100,000	$325,000	$500,000

Notes:

1. "Core" resources are financial resources devoted to ASD-related salaries, data costs, and other expenses normally associated with basic ASD, such as conference attendance and travel costs to visit airline headquarters.
2. "Extra" resources are those affiliated with particular types of incentive programs, such as minimum revenue guarantees, subsidies (e.g., fee waivers), and marketing efforts, particularly where airport funds are used to match non-airport funds.

The numbers are not additive. For example, not all airports received federal assistance, and not all applied resources to "extra" ASD efforts. Thus, one should not add the numbers across and suggest that the median amount of resources applied to ASD by all hubs in the survey to be $995,500.

differences in air service activity and the amount of economic activity in the surrounding area, small hub airports were generally able to provide more airport-originating funds than non-hub airports for ASD efforts. Contributions from the private sector and the federal government tended to be greater for non-hub airports.

Establishing and Validating ASD Goals

The community should be meaningfully involved in setting ASD goals. The best way to involve the community is to work with key stakeholders on a regular basis. Most communities interviewed in the survey had either longstanding or newly formed community groups that focus on air service issues.

Figure S.3 and the following list summarize the most frequently mentioned major goals identified in the survey:

- **Retaining existing service.** Retaining existing air service may be the most important goal for many smaller communities. The need for small airports to retain existing service is important in and of itself, and it also affects an airport's ability to recruit additional or expanded service. An incumbent's leaving may open the door to a new entrant, but small airports will face negative market impressions that either the community is too small to support service or the market is too competitive for a carrier to have sustainable business.
- **Adding service to new destinations.** Incumbent carriers generally understand a community's traffic patterns. Thus, expanding the service offered by incumbent carriers—especially to a new destination or hub—is often a top goal. Now more than ever, communities realize that bringing in another carrier to compete directly with their existing services could be harmful to the sustainability of their market. For some airports, adding new service on
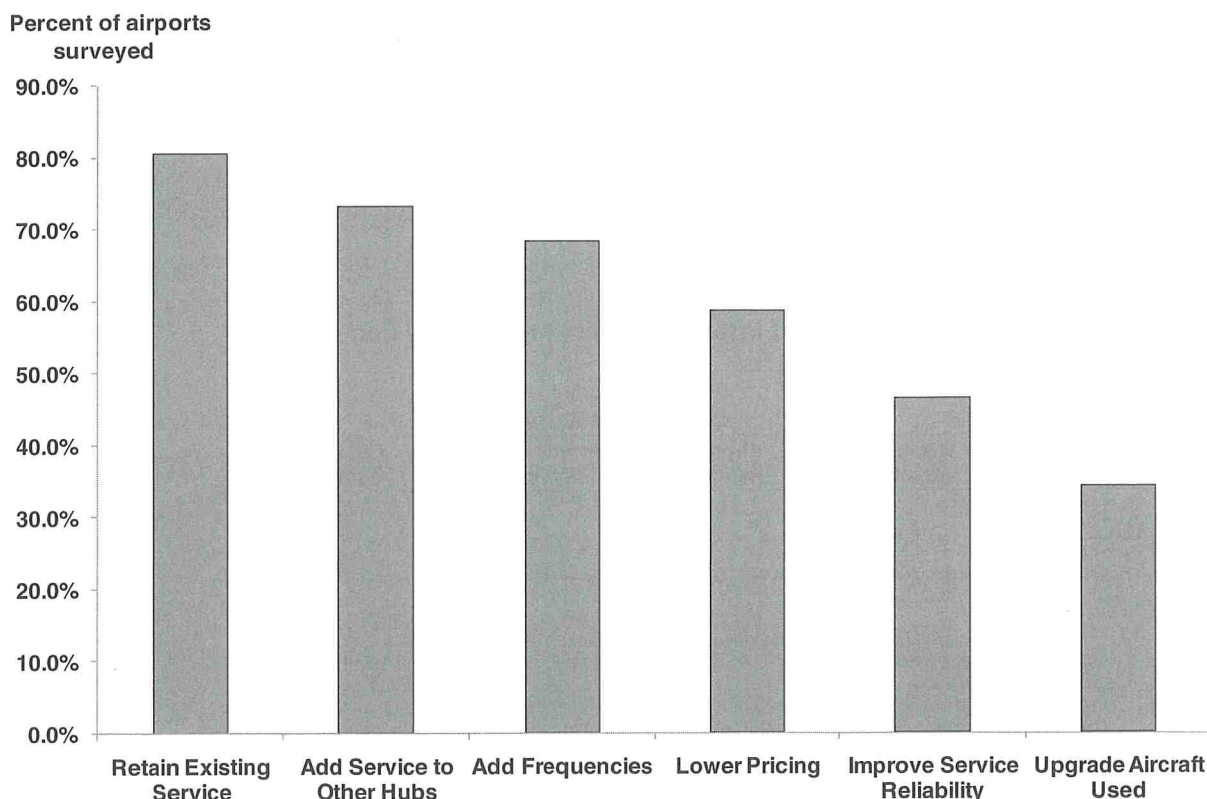
Figure S.3. Most frequently mentioned ASD goals.

another legacy carrier to a new connecting hub may be a goal to work towards. Service to a different hub may also introduce new possible connections that were previously unavailable. Gaining additional service from incumbent carriers may also mean increased access to major international gateway airports.

- **Adding frequencies to current services.** Some communities' greatest need may simply be additional frequencies on existing routes to fill out service patterns and provide more connection opportunities at hubs. Developing more demand from a community through additional frequencies in the short term will help develop other new services in the long run.
- **Lowering fares/introducing competitive new service.** Smaller communities tend to have higher average airfares than larger communities. Small airports may offer parking convenience and less congestion, but cheaper airfares are usually what attract passengers to particular airports. Because leisure passengers in particular may be willing to drive several hours to access LCC service, the goal for many small airports is to keep prices competitive.
- **Improving service reliability.** Flights are delayed and cancelled because of maintenance, weather, and congestion. Particularly at smaller airports that have fewer connecting flights, service reliability can become a major problem and cause travelers difficulty in reaching their final destinations. For an airport to retain passengers, it must have a reputation for reliable air service. Improving reliability can be a significant goal.
- **Up-gauging aircraft.** The economics of the regional aircraft industry is changing as advancements in fuel efficiency, range capabilities, and operational performance influence how small communities are served. Use of smaller turbo-prop aircraft and regional jets have been reduced in some longer-haul markets, but carriers will continue to need and use them in the foreseeable future. If a market assessment shows that services on 50-seat regional aircraft are under threat, a community may be able to support service with larger regional aircraft—even if it means less daily frequency.

To be successful in attracting new air service, airports and communities next must examine their goals critically to ensure that they are realistic. Otherwise, ASD teams are wasting time and money trying to achieve something that the airlines will not even consider.

Communities must develop a compelling case that attracts the attention of airlines. Proposals for new services should be reasonably within the capabilities of a community to support in a manner that will be profitable for the targeted airline. Pursuing services that the community cannot support or that cannot be flown profitably will inevitably lead to disappointment—flights that will not survive long (if implemented at all) or provide few benefits to the community and the airline.

ASD teams should determine what types of aircraft—in terms of capacity and range— would be appropriate for the proposed service. ASD teams must also ensure that those aircraft are compatible with the airport's infrastructure—its jetways, tarmac, and runway length.

Small communities may be more likely to attract new air service if its target market currently receives only connecting service. That is, if the target market is one where the new entrant airline would be the second carrier offering nonstop service, the airport will likely have more difficulty persuading the airline to start service, especially during difficult economic times.

Selecting a Strategy and Techniques for Air Service Development

ASD techniques can generally be divided into two broad categories: those designed to boost a carrier's revenue through promoting passenger demand or ensuring that revenue achieves a minimum threshold, and those designed to induce carriers to supply air service by eliminating or offsetting some of their costs to launch new service. Although both can produce the same result in the carrier's bottom line, different carriers expressed clear preferences for

Except in unusual circumstances, all smaller communities will need to provide some sort of risk mitigation to attract new or enhanced service.

different types of incentives. Airports may also decide that they want to use both revenue and cost options.

Chapter 8 describes a variety of ASD techniques, along with discussions of their advantages, disadvantages, case studies of where the technique was applied, and the situations in which they might be appropriate to be used. The techniques include the following:

- **Minimum revenue guarantees.** Revenue guarantees are agreements that establish a target amount of revenue that a carrier will receive for operating a particular service to a particular destination over a given length of time.
- **Guaranteed ticket purchases ("travel banks").** Guaranteed ticket purchase programs effectively ensure that the target airline will have passenger traffic worth a certain volume of revenue. Businesses or individuals deposit funds in a bank account that can be used only for purchasing tickets on the target airline during a given period of time.
- **Cost subsidies.** Subsidies are a broad category of financial incentives that generally offset some aspect of an airline's costs of operation. These subsidies can include waivers of fees or discounted landing fees during a promotional period. Cash subsidies are paid without regard to the amount of revenue that a carrier may generate during the agreed-upon period. Subsidies are generally a fixed amount, often with no connection to the eventual profitability of the route.
- **Marketing and advertising.** Marketing is the most common form of ASD technique. Airports or communities usually purchase the marketing or advertising on behalf of the airline's new service (for either an outbound or inbound market). Marketing is designed to build awareness for a new service and develop demand so that the service can become self-sustaining.
- **Non-financial (in-kind) contributions.** "In-kind" assistance refers to products, goods, or services that otherwise might have to be paid for, but which can be donated by third-party providers instead. In-kind assistance can represent a significant value toward creating and/or sustaining demand. Local stakeholders may be willing to provide in-kind assistance. For example, local advertising firms may provide billboards. Local media may provide newspaper or TV coverage.
- **ASD consultants.** Air service consultants can be invaluable for smaller airports. Consultants can provide information on the industry to the airport manager, the ASD officials, the airport board, and other local stakeholders. They can analyze changes in the local market over time and match that with developments in the industry.

Air carriers typically have certain preferences in terms of incentives. Some prefer revenue guarantees. Others are mostly concerned with cost containment. ASD teams should understand those preferences when selecting ASD techniques and meeting with air carriers.

One or more of the airports surveyed have used each of the ASD techniques discussed. As shown in Figure S.4, the most commonly used ASD technique is marketing aimed at informing the community about new air service and discouraging passenger leakage. Most airports also provide direct subsidies to reduce carriers' costs. Most also have hired ASD consultants to provide some analytic and presentation support.

About half of the airports surveyed used minimum revenue guarantees. More non-hub airports than small hub airports used revenue guarantees, likely because those communities recognize that they need to share in the carriers' financial risk of serving smaller markets.

Making a Compelling Case for Air Service

Almost all of the airports surveyed reported that they presented some sort of "business case" to the airlines they targeted. Small hub airports consistently tended to present more
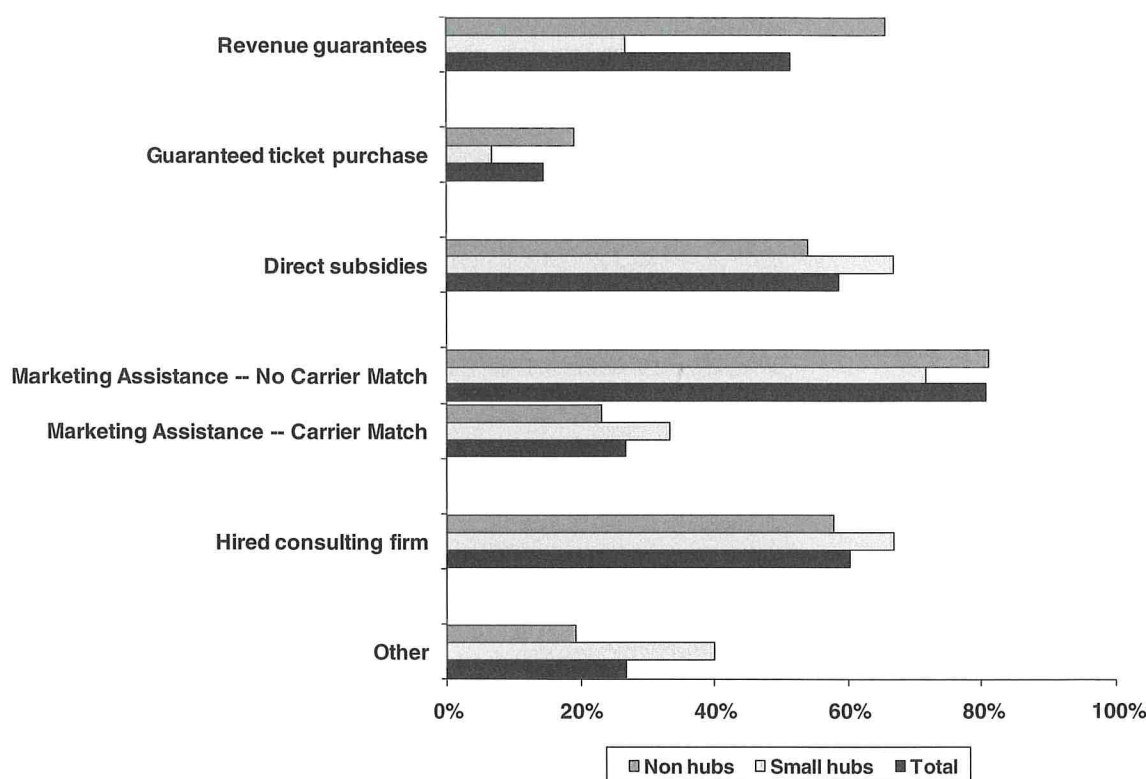
Figure S.4.   ASD techniques used by small airports.

information than non-hubs airports. Figure S.5 summarizes the type of information that airports reported presenting to carriers.

The route forecast is an important part of any proposal to a target airline. It builds on all the items noted above. It represents the airport's best estimate of how successful the new service will be. It includes a proposed schedule, aircraft type, seating capacity, and seating configuration. The route forecast should also include a comparison of the proposed route to similar routes flown by the target airline. It indicates how the new service would compare to other services by that or another airline, what the operational and financial assumptions are, and whether it would be a meaningful contributor to an airline's bottom line.

Carriers surveyed acknowledged that communities need to be able to make a sound route analysis to demonstrate the potential viability of their routes. However, communities should understand that commercial air carriers are most interested in information they do not usually collect or to which they do not have easy access. (See Figure S.6.) Such information could include local economic and demographic data, details about local businesses and their travel habits, information about local civilian and military government facilities, and local tourist attractions that drive inbound leisure traffic. Airline planners reported that they most needed local economic and demographic data, as well as information on actual or potential market demand. Air carriers are particularly interested in the strength of local businesses together with their travel habits because business travelers are their preferred type of customer.

Attracting airline service is an ongoing process, not a one-shot event. Making an initial contact with an airline at an industry conference, and then following up with the airline at a headquarters meeting, can be a fruitful approach. Securing air service may require a

Carriers are most interested in information that they do not normally collect or to which they do not have ready access.
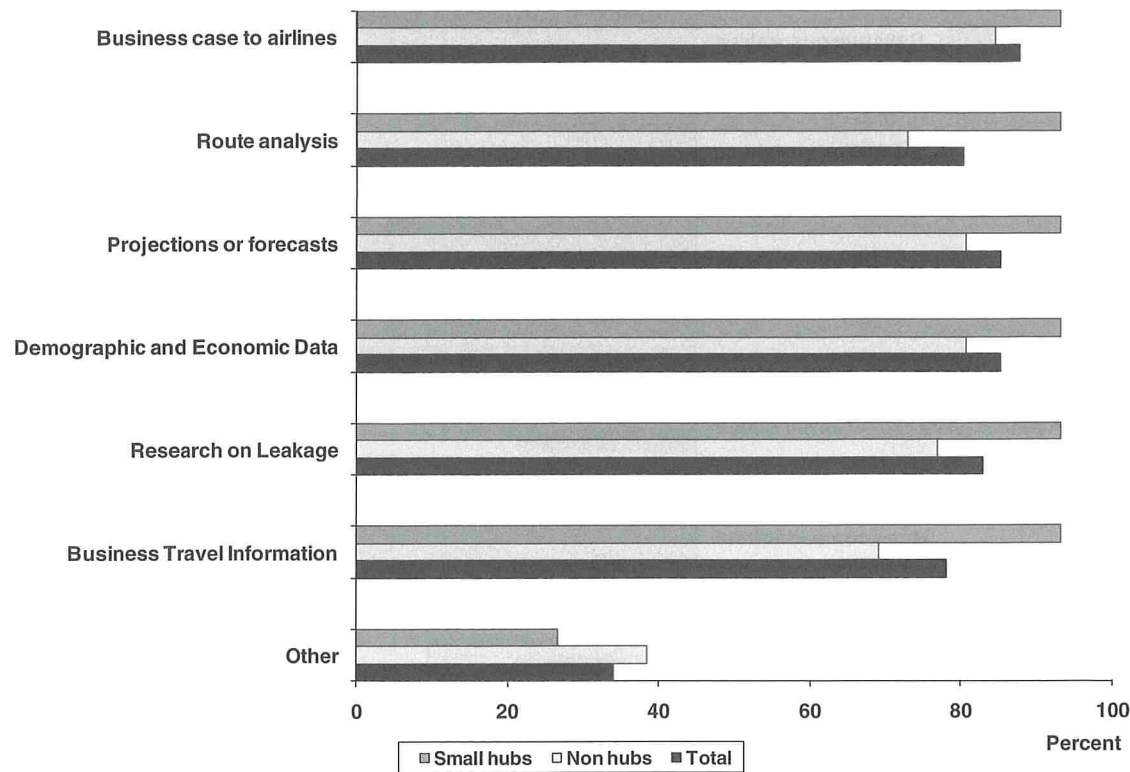
Figure S.5.   Information that airports present to carriers.

prolonged effort: a number of industry conferences and headquarters meetings may be required. Therefore, expectations should be adjusted accordingly. The airport should focus on establishing a rapport with the targeted airline. The initial meeting is the first step in a process that may take a number of months or years.

Most of the airports surveyed reported that they presented their cases to the airlines directly at headquarters meetings. A majority of small hubs also reported that they met with
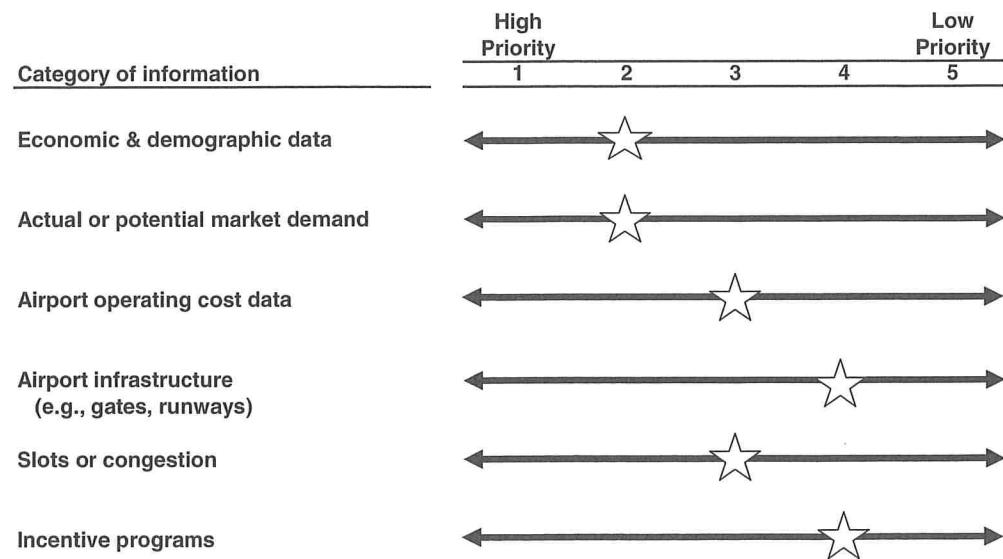
Figure S.6.   Kinds of information carriers are interested in.

airlines at ACI-NA's annual "JumpStart" conference, but less than half of the non-hubs reported meeting airlines there.

Presentations should be tailored to the type of meeting, whether an initial introduction at a conference or a longer and more detailed headquarters meeting.

Strategically selecting the individuals to participate in the meetings is as important as the selection and presentation of the material itself. Normally no more than two individuals, the airport manager and the ASD consultant, should participate in meetings at conferences. Three or four individuals typically participate in headquarters meetings. The airlines we surveyed stated that the mayor and other elected officials as well as representatives of the local Chamber of Commerce should not participate in meetings as they typically add no objective substance to the discussion.

Follow-up and ongoing participation in industry events and conferences is critical to establish and maintain relationships and remain on the "radar screen" of airlines. It is important to gauge the level of interest of an airline in serving the airport and adjust goals and strategies accordingly.

Once an airline has firmly established an interest in serving the airport's market, and perhaps even proposed a start-up date for the services, some negotiations may be necessary to agree upon the final details. Those details usually hinge on how to minimize costs and support marketing efforts.

Evaluating and Refining the Program

The final aspect of effective ASD programs concerns an evaluation of the ASD team's efforts. Such an assessment provides a systematic and unbiased review of the methods and procedures used, as well as the results obtained. The evaluation step is often overlooked as part of any program, but sound program management requires an assessment to improve and build on past efforts.

Measuring the effectiveness of an air service initiative is conceptually straightforward but can be very difficult to do well. There are three basic components needed to determine whether an ASD technique worked effectively:

Sound program management requires an evaluation to improve and build upon past efforts.

Measurement allows for improvement.

- **Knowing the objectives exactly.** Knowing exactly what the goals were is critical to being able to assess the extent to which they have been achieved. The more commonly used ASD objectives or goals—such as gaining service to a new hub—are easily assessed. The service started or it did not. (Whether it is sustained is a separate dimension.) Less concrete goals—such as "decreasing the amount of passengers leaked"—are difficult to assess. Has an airport achieved its objective if passenger leakage declined from 60 to 55 percent? The goal itself should be better defined. It would be better to set a goal of reducing leakage by some specific amount (e.g., from 60 to 45 percent).
- **Measuring outcomes.** With the more common goals and objectives noted above, measuring the eventual outcomes is relatively simple. Most operational data (e.g., departures, enplanements) provide good metrics of the extent to which the ASD program achieved the goal. It is also important to examine passengers' reactions, which provides feedback on whether the assumptions used in the business case were on target (e.g., whether the new service stimulated new travel). Similarly, keeping in mind the importance of maintaining existing service, the effects of any new ASD efforts should also be checked against incumbent carriers' operating results.

  Roughly half of the airports surveyed reported that they also tracked the financial effects of their ASD efforts. Measures were both revenue and cost related. For example, several

airports tracked parking revenues and spending on concessions that correspond with changes in enplanements.

- **Attributing causation.** Airports and communities naturally want to attribute positive outcomes to their efforts and negative outcomes to external events. Yet because airline finances and operations are so closely related to national economic conditions, any significant change in an airline's costs—or any major external event that may affect passenger demand and revenues in a market—can cause airlines to react in different ways. For the types of evaluations generally of interest here, caution is urged in claiming total credit or accepting all of the blame.

Finally, keeping key stakeholders informed about the results of an airport's ASD efforts helps ground their expectations in the progress achieved. Analyzing the results will also help the ASD team consider whether alternative ASD techniques might be more effective in the future.
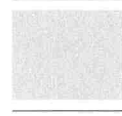
Overview of Air Service Development

Using this Guidebook

What is the purpose of this guidebook?

Developing additional air service is a priority for many communities. In fact, with market forces compelling air carriers to continually trim service and capacity, simply retaining existing service can be a significant priority.

Yet air service development (ASD) teams—especially in smaller communities—often have little practical guidance on what techniques exist and which techniques have been effective for other airports. Currently no single resource document summarizes experience to date in ASD or offers guidance as to when and how different techniques should be used. This guidebook is meant to help fill that void and assist the airport community in better understanding how to approach air service development.

ASD encompasses attracting, initiating, expanding, retaining, or improving any aspect of air service to a particular airport. It includes considerations of changes in pricing, frequency, capacity, hub connectivity, and the number of destinations served to improve service and thereby increase passenger demand. ASD techniques can include incentives; subsidies; guarantees; changes to rates and charges; marketing; cost-reduction measures; airport/community/airline partnerships; reduction of third-party costs, such as ground handling or fuelling services; or any other approach taken to encourage development of air service.

In this market, retaining existing service can be a significant priority.

Clearly this is a complex topic within an extremely dynamic industry. This guidebook, however, is intended as an easy-to-read discussion of the various facets of air service development. It explains what techniques other airports have recently used to attract or retain air service. Although this guidebook is based on solid analysis, statistical evidence, and decades of collective professional experience and insight, it is intentionally not presented as an academic journal. Interpretation and examples are emphasized rather than intensive statistical data and economic analysis. The aim is to keep this publication readable, practical, and useful yet still appropriately comprehensive and rigorous.

Who should use this guidebook?

This guidebook is intended for airport professionals and business or community officials interested in preserving or enhancing their commercial air service. It is intended to be useful to both those who have been working in air service development for some time, and those for whom ASD may be relatively new. The aim is to spur new thinking and ideas for experienced airport professionals, while providing enough information to enable officials less familiar with ASD to plan and execute an ASD strategy.

Sharing this guide-book with key local stakeholders will help them better understand exactly what is needed for a community to attract and retain air service.

Further, airport officials may find that sharing this guidebook with key local stakeholders will help them better understand exactly what's needed for a community to attract and retain air service. Local businesses and government officials need to understand that air service is a business like many others (and unlike still others). For the business to be viable, revenues have to exceed costs. They need to understand how they can influence both sides of the equation.

How is this guidebook organized?

This guidebook is organized into three general parts.

The first part—comprising Chapters 1 through 4—provides an overview of air service development and why it's important for many communities, given the financial and risk realities of the commercial airline industry. Certainly at this point in the industry's business cycle, U.S. airlines are hemorrhaging cash in response to soaring fuel prices and their inability to recover those costs through fare increases. Airlines are deciding that if they operate aircraft, they lose money, and if they don't operate aircraft, they still lose, but they lose less. As a result, carriers are cutting operations. That often means smaller communities are losing service—frequencies from incumbent carriers, all service from some carriers, or both. Part I highlights the existing strain on airline financials, but in the context of longer term profitability cycles. The part also provides an overview of the regulatory parameters established by the Federal Aviation Administration (FAA) concerning airport rates and charges, and what's generally allowable in terms of the financial and non-financial assistance that airports and communities can provide airlines.

Part II breaks down the process of air service development into discrete components. It systematically outlines how communities that have been successful with ASD efforts have approached the task:

- The process starts with a diagnosis of the airport's competitive strengths and weaknesses, as well as an assessment of the physical facility's limits. This analysis includes key fundamentals of understanding the airport's catchment area and the markets of most interest to the airport's traveling public.
- The guidebook then examines the various resources that communities may have at their disposal for attracting and retaining air service. Those include financial and non-financial (e.g., in-kind) resources, as well as human resources.
- Next, airports and their stakeholders should focus on exactly what their air service goals ought to be. These are likely to differ depending on whether the focus is incumbent carriers (e.g., preserving service, re-timing operations, or perhaps upgrading aircraft) or new entrant carriers (e.g., attracting a niche carrier to serve a particular market, or attracting a different network carrier to provide new nonstop service to a hub that would improve directional flow). Reflecting the realities of passenger leakage, many airports are concerned about addressing the issue of high airfares. Even with carriers raising fares to cover part of their fuel costs, airports still ought to be conscious of the fares charged locally in relation to those at nearby competing airports.
- The next chapter discusses how to develop a compelling business case for the carriers. When the airlines are sharpening their pencils looking for every nickel of cost saving or dime in additional marginal revenue, the airport must present a realistic and defensible case.
- Part of making the case includes understanding the contribution that the airport and community can make to the airlines. The guidebook examines the revenue- and cost-related incentives that smaller airports should consider extending to attract new or retain existing service. Airlines no longer look at such incentives as incidental niceties; they are fundamental requirements. Airports at smaller communities that don't offer incentives simply do not attract airlines' attention.

- Once the information is assembled, it must be presented to the airlines. The guidebook briefly discusses the best ways to make this presentation. Though each situation is unique, certain tactics are typically more effective than others.
- Finally, the guidebook briefly discusses how the airport should assess and re-evaluate its efforts. Air service development is a long-term effort, particularly during difficult financial times. The airport should plan on re-examining its goals and strategy and making needed adjustments along the way.

Each step includes examples of how other airports across the United States have approached that aspect of ASD, and what their results have been.

Part III includes a glossary of important terms and a series of Frequently Asked Questions. This part is intended as a point of reference for readers. The guidebook also includes an annotated bibliography for readers looking for additional information on particular topics.

How was the research conducted?

The scope of this ACRP research project was limited to those airports that serve locations that U.S. law defines as "small communities"—generally, those with airports classified by the FAA as small hubs and non-hubs. These communities tend to need greater assistance in obtaining or enhancing commercial air service. There are 426 non-hub and small hub communities in the United States, including those in Alaska, Hawaii, and U.S. territories. Note that the FAA's definitions of hub airports are based on statutory definitions and are not the same as the more operational definition of hubs that are applied by airlines. Federal law defines hub types at 49 USC 47102.

The study team began with an extensive literature review of topics related to air service development. (Major related articles are summarized in the annotated bibliography included in the appendix.) Critical among the materials reviewed were several reports written by the federal government, particularly the U.S. Department of Transportation (U.S.DOT) and the U.S. Government Accountability Office (GAO), both of which have produced numerous documents about air service at smaller communities. The study team also drew on its own expertise in air service development, which collectively amounted to several decades. The study team also reviewed material posted in the libraries of various industry trade groups, such as the American Association of Airport Executives (AAAE).

As part of that review, the study team examined materials submitted to the U.S.DOT by smaller communities applying for grants from the Small Community Air Service Development Program (SCASDP). This federal program provides grants to small communities to help them achieve sustainable air service. Those submissions provided a rich source of descriptions of the fundamental air service problems that small communities confront and how they intended to address them.

Based on that information, the study team created a categorization of ASD problems commonly faced by small communities. These almost universally included relatively high airfares. However, the issue with the airfares is in part a reflection of the extent of competition at the airport in particular markets, the type of competition present at the airport [i.e., network carriers versus low-cost carriers (LCCs)], the proximity of the airport to network carrier hubs or other larger airports served by a low-cost carrier, the airport's geographic isolation, and the economic strength of the community. The study team excluded airports in Alaska, Hawaii, and the territories because of the fundamentally different and unique challenges those communities confront.

The study team then added information on the different types of ASD techniques that various airports and communities have used over the last several years. These include various types

The research supporting this Guidebook focused exclusively on those airports serving locations that U.S. law defines as "small communities."

of financial and non-financial incentives, such as revenue guarantees, cost subsidies, guaranteed ticket purchases, and marketing.

The study team thus had a framework of information about fundamental air service problems and techniques used to address them at small community airports. The study team then designed a survey questionnaire to gather additional information from a number of those airports. Forty-one airports were selected to survey. This number was appropriate because it allowed the study team to interview both non-hub airports and small hub airports from around the country that face the full array of competitive challenges. It also allowed the study team to interview multiple airports that had implemented similar ASD approaches. Figure 1.1 shows the airports that were surveyed.

The survey covered three basic topics:

- A profile of existing service at the airports, along with the airport directors' sense of what their major deficiencies were;
- A review of the ASD techniques that had been used; and
- The airport directors' evaluations of those techniques' effectiveness.

The study team pre-tested its surveys with a small number of airports and made subsequent adjustments based on the outcomes.

The study team also interviewed a number of air carriers to get their opinions on ASD priorities at smaller communities. The carriers included both network (United Airlines, Delta Air Lines, and Continental Airlines) and low-cost carriers (AirTran Airways and Frontier Airlines), along with a niche carrier (Allegiant Air). The study team also obtained information from American Eagle Airlines and ExpressJet Airlines.
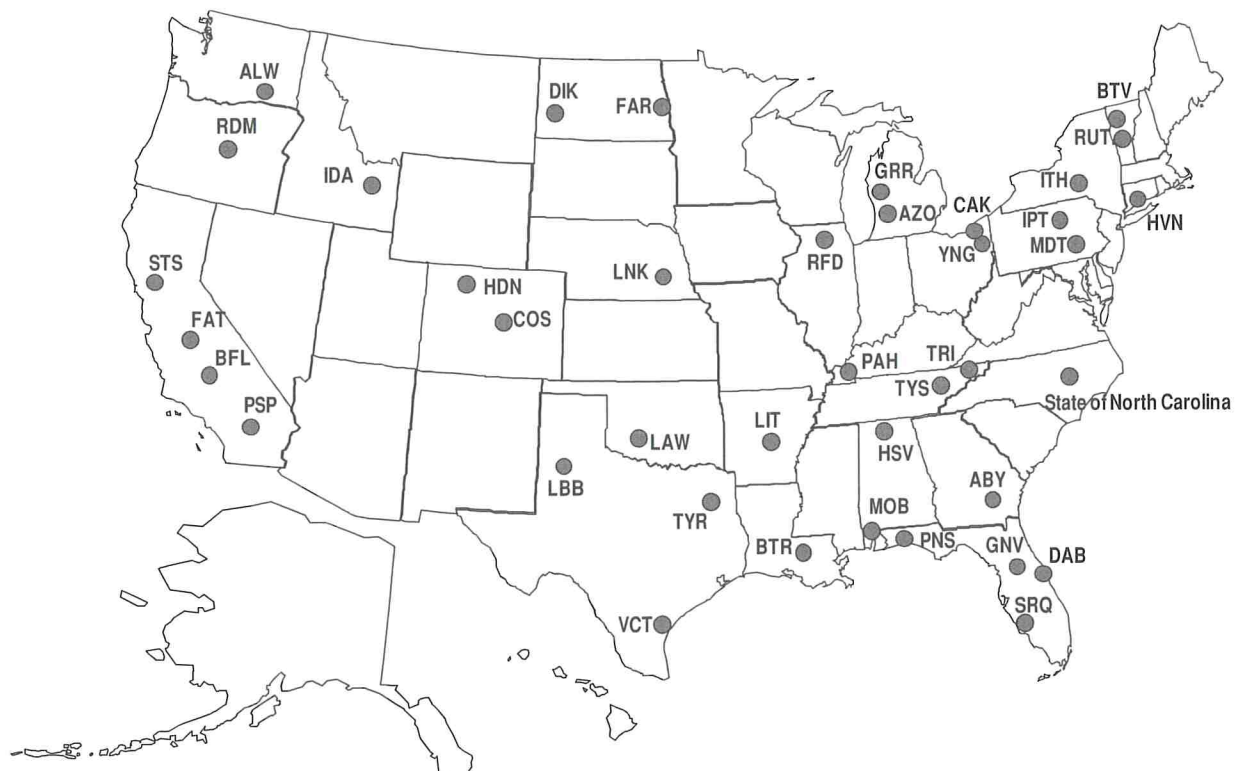
Figure 1.1.   U.S. airports surveyed.

The study team interviewed individuals with a number of industry and government organizations. These included the FAA, U.S.DOT, Regional Airline Association, AAAE, National Association of State Aviation Officials, and manufacturers.

Along with the data from these surveys, the study team examined data submitted by all airlines to U.S.DOT covering enplanements, operations, markets served, and fares. The study team discussed changes in these major factors with airport directors to get confirmation from them on what they considered their major air service deficiencies to be, as well as how service at their airports had changed over time.

Finally, the study team would be remiss if it did not include this disclaimer: As everyone in the industry well knows, there are no guarantees in this business. The industry is subject to external forces that will ruin the best business models, and the approaches outlined in this guidebook cannot guarantee success. That being said, there are strategic, proven ways to approach the issue of attracting new service—or simply retaining existing service. This guidebook is intended to help airport and community representatives build and execute an ASD strategy.

This guidebook is intended to help airport and community representatives build and execute an ASD strategy.

Summary

- ASD teams—especially in smaller communities—often have little practical guidance on what techniques exist and on which techniques have been effective for other airports. Currently no single resource document summarizes experience to date in ASD or offers guidance as to when and how different techniques should be used.
- This guidebook is meant to assist small communities (generally, those with airports classified by the FAA as small hubs and non-hubs) to better understand how to approach air service development.
- The results are based on an extensive review of ASD-related literature, interviews with industry professionals, and a survey of small community airports and the airlines that operate there.

CHAPTER 2

Understanding the Role of Air Service Development

Air service generates significant economic activity in a community. But good air service—an array of flights appealing to travelers—doesn't just happen. In fact, market and industry forces (discussed in detail in Chapter 3) tend to discourage airlines from expanding air service, particularly to small communities. However, by taking an active, professional approach to air service development, those smaller airports and communities can often provide the information and conditions to encourage airlines to retain or expand air service to that community.

For many communities, investing in air service development significantly improves their return on investment in airport infrastructure. Further, involving a broad base of community leaders in air service development assists the community in understanding what is required to support existing or new air service.

What is air service development?

"Air service development" is a broad term that encompasses a variety of activities with the ultimate goal of retaining existing air service or improving air access and capacity in order to develop the economy of a community or region.

ASD requires understanding the flexibility an airport has in extending financial and non-financial incentives to carriers.

For the purposes of this guidebook, ASD involves all activities directly related to enhancing commercial passenger service at an airport. It includes understanding the local community, what drives its economy, and recruiting community and business leaders to participate in efforts to "sell" the community to the airlines. It includes understanding the air service and fares that airlines offer, and how the service, fares, and facility compare to those of nearby airports. It also involves understanding the cost and revenue issues that influence carriers' decisions on which markets to serve. ASD requires understanding the flexibility an airport has in extending financial and non-financial incentives to carriers—both those already serving the facility (incumbents) and those being recruited. ASD encompasses understanding what carriers value most and what they want to know about the community. It includes knowing how to make and present a sound business case to airlines. And it includes understanding how to evaluate ASD efforts and revise them as needed.

Why is air service development important?

Commercial air service is valuable as an economic driver in the community. Adequate air service is a prerequisite for attracting investment and generating employment. Air travel also brings new visitors and incremental spending in local hotels, attractions, and other businesses. Air service is directly related to the amount of economic activity in an area, and additional flights contribute

to a community's economic well being. The FAA has reported that, in 2006, civil aviation activity within the overall economy contributed 11 million jobs, $1.2 trillion in economic activity, and 5.6 percent of the gross domestic product (*1*). On a local level, it has been estimated that one narrowbody flight can produce the equivalent of $4 million annually in gross domestic product and more than 50 person-years of employment. For an overview of the relationship between overall economic activity and the demand for air transportation, see, for example, *Airline Management: Strategies for the 21st Century* by Paul Stephen Dempsey and Laurence E. Gesell (Coast Aire Publications).

Competition for air service increases during difficult economic times. Airlines are grounding certain older aircraft because they are costly to operate and because there is inadequate demand to fill the planes at price levels that are sustainable (see discussion in Chapter 3). Older legacy airlines are fine-tuning their networks to leave only the profitable markets. Marginal markets—which may often include smaller cities or those dominated by another carrier—are being targeted for cuts. Those communities need to understand the fundamental drivers of air service and what they can do to convince airlines that their location still represents an opportunity. Communities have to aggressively compete for air service.

Communities have to compete aggressively for air service—particularly during difficult economic times.

In addition, airline mergers and bankruptcies are affecting service to many communities. For example:

- When Mesa Air Group, Inc., decided to cease operation of its Air Midwest subsidiary in June 2008, service to 20 cities was affected. Although other operators replaced the service from Air Midwest at some locations, Mesa Air Group's decision to terminate service to Prescott and Kingman, Arizona, resulted in the termination of all scheduled services at those two airports, which had been previously linked with intrastate service to Phoenix.
- When Billings, Montana–based Big Sky Airlines ceased operations in March 2008, it ended a history of service to many smaller communities in Montana. Big Sky had connected five small cities—Glasgow, Glendive, Havre, Miles City, and Wolf Point—to Billings through the Essential Air Service. As of November 2008, service to those locations (along with Lewiston's service to Denver) was still on hiatus until Great Lakes Aviation could ramp up its new service.
- Similarly, the merged Delta and Northwest Airlines may "rationalize" their combined networks. In situations where both carriers serve smaller communities, the merged carrier may drop one of those routes. This occurrence is especially likely if a small community is relatively close to hubs for either Delta or Northwest, because the cost of operating aircraft over short distances is high.

During upswings in the industry, smaller cities compete for service from a limited number of aircraft. If an airline deploys an aircraft to one small community, it may mean that another small community does not get that service.

During upswings in the industry, smaller cities compete for service from a limited number of aircraft.

To address such changes in the industry, many small communities operate ASD programs. ASD efforts can help communities design strategies to retain their existing service or develop new service in existing and emerging markets. ASD programs provide the interface between the airlines, airports, and the community. They work with the major businesses and other economic drivers in the local community and region to help ensure that travel needs are met and to help the airlines better understand the existing market opportunities. They help ensure that the airport serves as an effective economic engine for the community and region.

Because of the intense competition among small communities for limited airline resources, small communities likely need to offer some form of financial incentives to attract targeted airlines to the community. Participation by community leadership in air service development initiatives establishes the credibility of the financial incentives offered to target airlines.

Airline officials, community officials, industry trade groups, and consultants all told the study team that reducing financial risk has become a key factor in establishing effective working relationships in small communities. Sharing the financial risk of commercial air service between airlines and the communities they serve has become an accepted approach within the industry. Airlines can only serve communities successfully over the long term if they are in a partnership with the community. Because of the size of the capital investment, the airlines believe that communities must share part of the risk of committing expensive aircraft to a given market. This is true in "normal" economic times, but especially during periods of severe financial stress. ASD programs help orchestrate and coordinate the risk sharing between the community and the airline.

How do air carriers decide which airports they will serve?

This question is deceptively difficult. The simple answer is: Airlines serve markets in which they can generate profits. In making those determinations, airlines consider many factors. If a community does not rank highly according to those factors, it may not receive service. And the factors that an airline considers may or may not coincide with issues that are important to the local community. Airlines are not motivated by altruistic concerns about local economic development.

Like any business, airlines seek to maximize profitability, and do so by establishing and operating routes that make a positive contribution to their bottom line. (Airline profit maximization, yield management, and route planning are complex topics beyond the scope of this guidebook.) Decisions are governed by an internal process that starts with route planners. These planners make their initial assessments before examining more in-depth considerations of market size and forecasts. Airlines also have to take other internal factors into consideration, such as frequent flyer needs. Route planners and senior managers evaluate competitive route opportunities and select those expected to provide the greatest return, giving consideration to the cost of deploying a specific aircraft on each route.

A carrier's air service decisions are based on weighing the revenue that it can generate in a market versus the cost of providing service to that market.

At the most basic level, a carrier's air service decisions are based on weighing the revenue that it can generate in a market versus the cost of providing service to that market. Depending on the airline, another consideration is the extent to which a local community may be willing to share the airline's risk involved in deploying an asset as expensive and valuable as a commercial aircraft.

Passenger Demand/Operating Revenues

On the revenue side of the equation, airlines focus on the size of the actual and potential underlying market. Two general aspects of passenger demand are important: the volume of passengers willing to get on the aircraft and the "quality" of the revenue mix that the market generates. For example, there are always plenty of passengers looking for a low fare to Las Vegas or Orlando, but that is seldom sufficient for airlines. Network carriers need business passengers flying at higher rates. Further, network airlines are increasingly concerned with attracting enough business travelers who want to connect onto international routes.

Market entry—when a new carrier begins to offer service at a particular airport—can cause passengers to shift away from existing travel patterns (fly on the new airline as opposed to an incumbent carrier). Market entry can also stimulate new traffic (passengers who would not have otherwise flown). Generating new travel is often preferable, because it is less susceptible to being lost back to the previous carrier through competitive offerings. A high percentage of new traffic allows carriers to build brand loyalty.

At all communities, but especially in smaller markets, airlines want to make sure that the markets are self-sustaining. That is, there should be sufficient passenger demand to allow the carrier to operate the route profitably without being subsidized or otherwise financially underwritten. Airlines know that financial support programs such as grants or incentives eventually end. If the market cannot sustain the service without assistance, it may not be worth the investment in time, effort, and personnel.

At the same time, however, many carriers look for—and now expect—a community to offer some form of financial risk-sharing in association with new service. The airlines recognize the value of new service to communities. Yet they also recognize that committing an aircraft to a market is a decision that involves a major asset and potentially a large risk—particularly if the airline does not have a history with a community.

The study team surveyed carriers on whether incentives were valuable in deciding about serving a community. Figure 2.1 summarizes the results of that survey. Some carriers, such as Frontier and AirTran, thought that incentives were very important. Others, such as Continental and Delta, were less interested in incentives as a prerequisite for operating at a small community.

The level of local support and commitment to air service can be a key factor in airlines' decisions to work with a local community. Support can take many forms. Communities may be willing to underwrite a sustained marketing campaign announcing the new service. The local chamber of commerce and major employers can be active in an ASD task force. Local hotels and tourist destinations may be willing to work with a carrier to develop packages. Local cooperation and involvement—especially on the part of the area's major employers—is noticeable to many carriers. Chapter 5 discusses many incentives in greater detail.

Especially in smaller communities, airlines want to make sure that there will be enough passenger demand for them to operate the route profitably without being subsidized.

Air Carriers' Costs

On the cost side, airline costs fall into two broad categories: direct operating costs (e.g., salaries and fuel) and airport costs. In addition, carriers also absorb other costs associated with starting new service at a location. In late 2008, soaring operating costs made many markets too costly to serve.

Direct operating costs are those immediately associated with operating the aircraft. They include crew salaries, capital costs (i.e., the cost of owning or leasing the aircraft), insurance, and fuel. Because smaller aircraft require relatively fewer crew, cost less to purchase or lease, and burn

Figure 2.1. Percentage of markets served where financial incentive is offered.
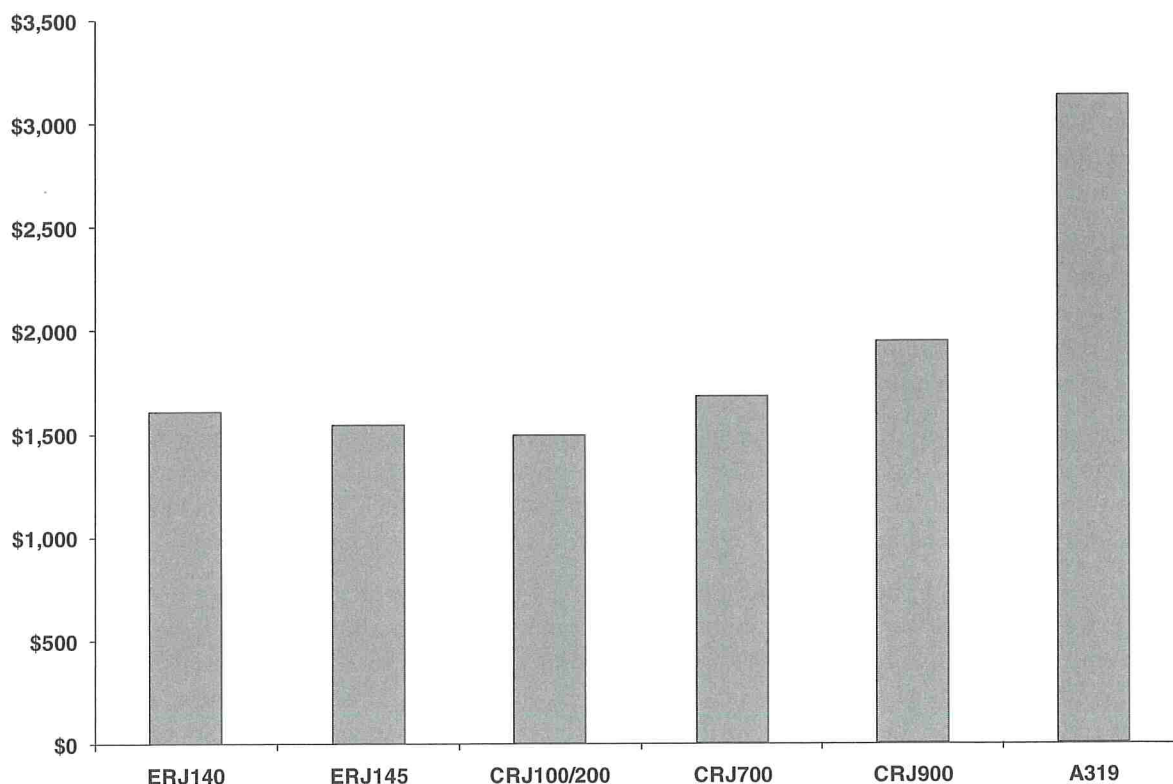
Notes: Block hours are a common measure of aircraft usage and generally are measured from the time that an aircraft pushes off a departure gate until it parks at its arrival gate. Data represent the 12 months ending March 2008. Data for CRJ aircraft operations are from SkyWest Airlines. Data for ERJ aircraft operations are from American Eagle. SkyWest and American Eagle were the largest regional operators in the United States in 2006 in terms of passenger enplanements. Data for A319s are for all aircraft used in the United States.

Figure 2.2.   Illustrative differences in costs per block hour.

less fuel than larger aircraft, their hourly operating costs are usually less, as shown in Figure 2.2. However, operating costs per unit of service provided—a seat available for sale—are less on larger aircraft simply because there are more seats available. (See Chapter 3 for more information on airline costs.) However, high fuel prices have driven operating costs up drastically compared to historic levels.

In some cases, even if an airline has a steady source of business passengers from a small community, aircraft operating costs can make the market unprofitable. Profitability is a function of both the revenue that can be generated on a particular market segment with a given aircraft, and the costs of operating that aircraft.

Airport costs are those directly associated with operating at a particular facility. They include landing fees, gate fees, counter and office rentals, and perhaps the costs of servicing aircraft at the airport. The importance of these costs cannot be underestimated. Airport costs can be very significant for certain carriers, and the importance that carriers attach to airport costs can vary widely. Higher than usual airport costs can make the difference between a profitable route and an unprofitable one.

Explanatory example of business market losing service due to operating costs

In June 2008, Delta announced that it was discontinuing service between its hub at Salt Lake City and Bakersfield, California. The airline's decision to leave was part of a 13 percent cut in domestic capacity announced in 2008 and was based on individual flights' passenger loads, profitability, and how much money Delta makes on Bakersfield air travelers' flights to their ultimate destination, such as New York City. Despite all those factors, a Delta spokesperson said, "Ultimately it comes down to operational costs directly related to fuel."

Costs associated with launching service at a new community can be difficult for carriers to absorb, particularly in difficult economic times. Start-up costs include repositioning equipment, renting space, and hiring and training personnel. Entering a new market also involves changing passengers' existing travel patterns and loyalties. Routes may take a year or more to mature and become self-sustaining. Today, airlines may not be as able to afford such losses while building a customer base.

GAO provided some insight into these costs in a 2003 report. Regarding the costs of serving small communities, the agency noted: "Another major part of the expense of providing air service is 'station' costs, according to airline officials. These stations require staff to handle passengers, bags, and cargo. One airline official estimated that it can cost as much as $200,000 to set up a station for new service, and annual station operating costs can range from $370,000 to $550,000" (depending on the size of aircraft used) (*2*, p. 12).

In the survey of carriers, the study team asked carriers to identify the top priorities they take into account in examining small markets for new or additional service. The results (highest to lowest) are as follows:

1. Actual or potential market demand (e.g., traffic, yields, competition)
2. Demographic/economic data (e.g., catchment area population, per capita income, employment growth)
3. Airport costs
4. Congestion at the carrier's hubs
5. Incentives
6. Limits on the potential community's airport gates and runway

How can an airport or community influence air service decisions?

Airports and communities can help carriers decide whether to serve a market or not by providing them with information that they might not otherwise have had. Airlines have limited numbers of route planners, and they tend to focus more on larger markets. Airline staff may be relatively unfamiliar with changes in a local area's economy or the existing air service. New or expanded businesses in an area can generate the amount and types of employment that can make air service viable. If a community does not make the effort to bring that sort of news to an airline's attention, the carrier may never learn of the opportunity or the community's unmet air service needs.

Not everyone agrees with this approach. Research revealed that a minority of small airport directors do not think it is useful to attempt to influence an air carrier's decision about whether to serve a market. They hold that these decisions are purely market driven, that the carriers know better than anyone else whether the market will work for them, and that the airport has no place interfering with a carrier's business. However, such a passive position assumes that airlines have perfect information about a community's current and future passenger demand, as well as the amount and quality of service provided by other carriers. That is simply not the case with smaller markets.

What can an airport or community control? First, the airport can make every effort to control the local costs associated with starting and operating new service. Even more importantly, the community and the airport can influence the carriers' decisions by providing information on the

Additional explanation of importance of containing airport costs

Myrtle Beach (South Carolina) International Airport is aware of the need to keep airport costs down. "Airlines tell us that whatever we do, we must maintain efficient, low-cost service." The airport manager noted that, "Our airlines aren't excited about temporary rebates or incentives. They want a long-term plan that shows a partnership. . . . Our overriding priority is to build a terminal that will lower costs for current and future airlines. We're a seasonal market, but one of the fastest-growing ones in the Southeast. We know that airlines look at Myrtle Beach as a seasonal market, so we hope to encourage airlines to stay year-round."(*3*).

In August 2008, the airport announced that it would cut its landing fees from $1.97 to 50 cents per 1,000 pounds of landed weight for all flights. The cuts equate to approximately $1.2 million in savings for airlines. The airport also waived landing fees entirely for all scheduled flights for December through the first two months of 2009—the months when seasonal traffic is lowest.

Airports and communities can influence carriers' air service decisions by providing information on the local market that they cannot otherwise find.

local market. They can organize efforts to gather, analyze, and present that information. They can organize efforts to influence the local demand for travel. They can organize efforts to develop financial incentives to offer the carrier as a way to share the risk of starting new service. They can develop and implement strategies for approaching airlines, including ensuring that high-quality information is provided to carriers. Airports and communities can also actively contribute to incentive programs and provide marketing assistance to airlines.

The airport is the natural central stakeholder in any ASD effort. The airport is in the best position to understand passenger traffic, service levels, air fares, and industry costs. Passenger and carrier activity directly affect airport revenues and provide the basis for its capital and operating budget. But beyond those immediate effects, it can be the role of the airport to educate other community stakeholders on the benefits of the new services and to demonstrate that their commitment is a sound investment. The airport manager or ASD officer thus becomes crucial for organizing the local effort and coordinating other stakeholders.

Explanatory discussion on involving local stakeholders

Palm Springs International Airport (PSP) serves eight resort cities in the California desert—Cathedral City, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage. Air traffic at PSP is "unbalanced," in that approximately 70 percent of its passenger traffic is inbound tourism. Many local residents may be more likely to fly from Ontario International Airport, 75 miles to the west, in part because of the large presence of LCCs there.

To promote additional inbound traffic, PSP coordinates with local tourism authorities and the convention and visitors authority. The airport is owned by the City of Palm Springs, so it naturally works with the local government's Bureau of Tourism. The airport also works closely with the Palm Springs Desert Resort Convention and Visitors Authority (CVA). The CVA's board of directors includes representatives of all eight cities, Riverside County, and the Hospitality Industry Business Council (representing lodging, restaurants, and attractions). These groups proactively engage airlines in partnership with the airport and member communities to promote air travel and tourism; direct stakeholder investment has approached $450,000. Airport staff systematically supports sales teams at the large hotels and resorts with information that those facilities use to help attract individuals and meetings/convention groups.

Because of its high average temperatures, the summer months are the area's "low" season. The airport, Bureau of Tourism, and CVA are working to attract additional travel during the "shoulder seasons."

What other stakeholders can be involved?

The airport should not be the lone entity in an ASD initiative. However, because the airport is a conduit for economic activity in the region, it is often best positioned to coordinate the community's efforts to retain existing and attract new air service.

In any community large enough to support commercial air service, there will be a relatively short list of stakeholders with whom the airport should partner:

- **Major employers.** Major employers are the principal driver of air service demand in the area. Their travel demands need to be met by the carriers. They may have distinct inbound and outbound needs.
- **The local chamber of commerce/tourism board.** The chamber of commerce represents all businesses in the area and thus can help obtain information on travel demand and marshal resources to help. The tourism board may be more concerned about inbound traffic. Local hotel associations and resorts also can be important contributors to an ASD strategy.
- **The local economic development agency and/or other parts of the local municipal government.** Local government has an obvious interest in assisting its business community to develop and prosper, as it forms the backbone of the region's economy and tax base.

Each of these stakeholder groups can play critical roles in influencing airlines to operate in the community. They can be sources of information that are otherwise unavailable to either the airport or the airlines (e.g., business expansions, sales of existing homes, planned local infrastructure improvements). They can also be important sources of financial assistance.

However, their willingness to support an ASD program will depend on whether they believe that it will generate a positive return on their investment and whether new service meets business objectives (e.g., new nonstop service to a major business destination, direct service from a key inbound tourist market). If proposed new service has been thoroughly analyzed and meets the fundamental criteria, then major stakeholders should be able to understand the business reasoning behind the need for an incentive package, and the need for their involvement.

State and federal government agencies can also be stakeholders. Both can contribute to ASD efforts. Consider:

- State governments invest more than $800 million annually in planning, operations, infrastructure development, maintenance, and navigational aids for the nation's 3,000 public-use airports. For example, both Kansas and Wyoming supported programs to bring more affordable air service to commercial airports in their states. The Kansas legislature in 2006 committed to a five-year, $25 million program. Wyoming has provided $3 million per year since 2002 for air service development.
- The federal government contributes direct financial assistance to support air service at small communities.
  - First, under the Essential Air Service program, U.S.DOT subsidizes service to 102 communities in the continental United States and another 39 in Alaska. In 2009, Congress provided $110 million to fund the program.
  - Second, the SCASDP provides grants to help small communities achieve sustainable air service. As established, an additional goal of the program was to generate creative ASD proposals that could be implemented in other small communities. Through fiscal year 2007, U.S.DOT has issued over 200 SCASDP grants totaling approximately $100 million to small hub and non-hub communities. SCASDP grants have ranged from $20,000 to $1.6 million and have funded a wide range of air service initiatives. Congress has recently been providing $10 million per year for the SCASDP.

What factors are not within an airport's control?

To begin with, the broad economic forces at work in the nation and a community—such as changes in its population and economic activity—affect the local demand for air service. Locally, if a company that generates a significant amount of travel either decides to expand or to relocate, such decisions will directly influence carriers' willingness to serve a community.

Similarly, as evidenced by the soaring costs of jet fuel during 2007 and 2008, the loss of demand following the Gulf War, and the industry's near collapse following the events of September 11, 2001, any major external shock is completely outside of a community's control. Some of those factors affect carriers' costs (e.g., oil prices) and others affect carriers' revenue (e.g., loss of demand during an economic downturn). Both have similar ultimate effects on a carrier's financial bottom line, so both can influence airlines' decisions.

What is the ASD process?

Effective ASD follows a relatively straightforward and logical process. In general, the process begins by identifying key service deficiencies, then flows into setting goals, marshaling resources, selecting a strategy, implementing the plan, and evaluating outcomes. Figure 2.3 illustrates the steps in the process, which is described in greater detail in subsequent chapters.

Stakeholders' willingness to support an ASD program will depend on whether they believe it will generate a positive return on investment or meets key business objectives.
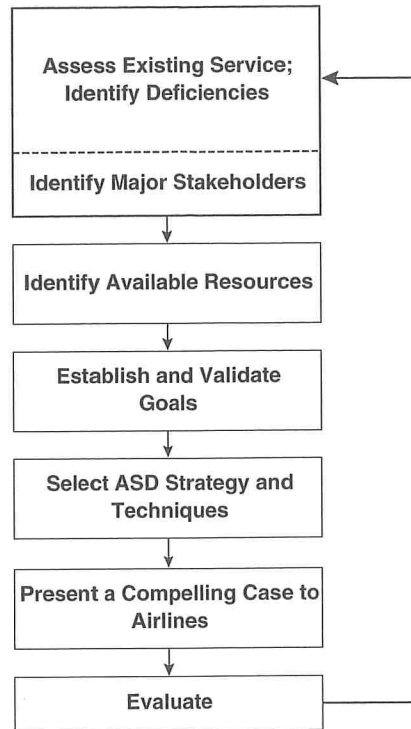
Figure 2.3. Overview of the ASD process.

Summary

- "Air service development" refers to the organized activities that an airport and/or its affiliated communities undertake with the ultimate goal of retaining existing air service or improving air access and capacity in order to develop the economy of a community or region.
- ASD is important for communities because of the relationship between air service and local economic vitality. Communities compete for air service; those that do not actively compete are at a disadvantage.
- Understanding how carriers make decisions on which communities they will serve is fundamental to developing an ASD program.
- Communities should draw on all available local resources for data and support, especially major employers and local economic development authorities.

Understanding the Context for Air Service Development

Air service development is not done in a vacuum. Before embarking on an ASD program, airports and communities must understand fundamentals of the U.S. commercial airline industry, the role of smaller communities within airline networks, and the business models of the carriers that serve those locations.

The fundamental challenge to any commercial operation is to generate enough revenue while controlling costs in order to earn a return on investment. Commercial airlines earn revenue principally through passenger ticket sales. Passenger ticket revenue has to be sufficient not only to cover the direct costs of operating the route, but also to contribute to overall network profitability. From a passenger's perspective, the question is whether the airline provides the service needed (flights to where the person wants to go) at the times required, at an affordable price. Only when value, price, and costs align adequately can a market exist.

Smaller communities present particular challenges to airlines. Passenger demand is limited by the amount of economic activity in the community. To better match the number of seats offered with passenger demand, airlines use smaller aircraft often in those markets. Smaller aircraft help carriers control their costs. However, there are fewer available seats to generate revenue. The difference of a few passengers can make one market profitable and cause another to consistently lose money.

Communities argue that demand would be greater "if only the airline flew to [insert name here]" or used a "nicer" aircraft or charged less for their tickets. These views—while understandable—reflect a common lack of understanding about the underlying economics that drive the industry.

How do smaller communities connect to the national aviation system?

For the most part, smaller cities in the United States are connected to the national aviation system by legacy network carriers' hub-and-spoke systems. These carriers transport passengers on nonstop flights from spoke cities into their hubs, and then redistribute them to connecting flights for their final destinations. The airports in the small spoke communities include the smallest airports in the nation's commercial air system. Depending on the size of those markets (i.e., the number of passengers flying nonstop between the hub and the spoke communities), the legacy airlines may operate their own large jets or use regional affiliate carriers to provide service, usually with regional jet or turboprop aircraft.

Figure 3.1 illustrates the regional service provided by the hub-and-spoke system that Delta operates at Salt Lake City (SLC). This system allows, for example, a traveler to fly from Rapid City, South Dakota (RAP), to Medford, Oregon (MFR), with a single stop. SkyWest Airlines provides this service as a Delta Connection with 50-seat regional jets. Passengers in that market also have
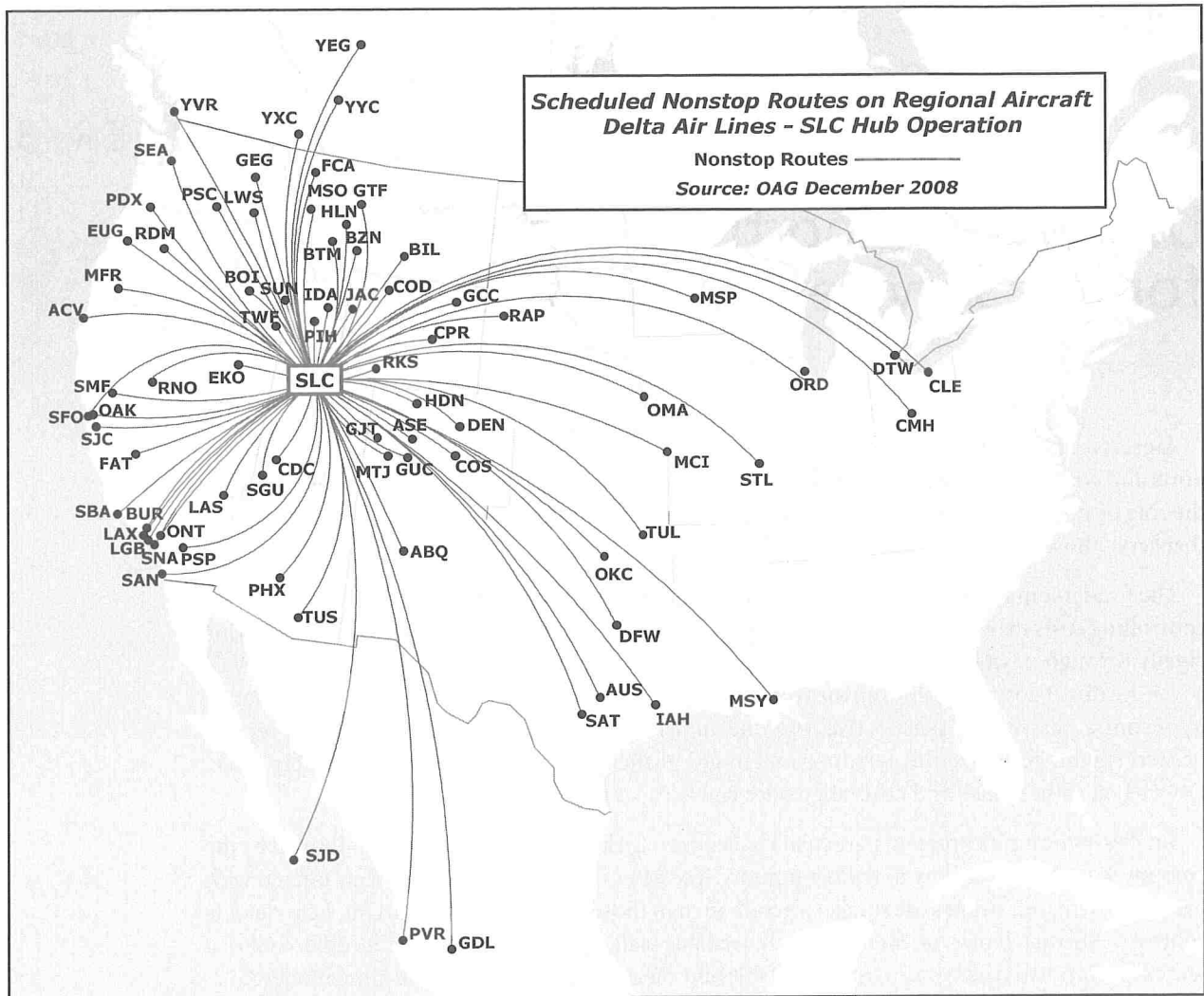
Figure 3.1. Spokes served from Delta's Salt Lake City hub.

the option of flying with United Airlines, connecting over its Denver hub (DEN). United's Denver to Medford segment uses 70-seat regional jets.

Hub-and-spoke networks underscore the important role that regional airlines play in connecting smaller communities to the national aviation system.

These hub-and-spoke networks underscore the important role played by regional airlines in connecting smaller communities to the national aviation network. Regional airlines provide short- and medium-haul scheduled service connecting 635 U.S. communities with larger cities and hub airports, using aircraft that range in size from 9 to 108 seats. Figures 3.2 and 3.3 illustrate two such aircraft—one of Horizon's Q-400s at Kalispell, Montana, and one of SkyWest's Brasilia Embraer 120s at Bakersfield, California.

Almost all regional airline passengers travel on code-sharing regional affiliates. That is, the regional airlines fly on behalf of larger legacy network carriers rather than under their own name, such as SkyWest flying as a United Express or Delta Connection carrier. The network carrier determines the markets that these carriers operate in, along with the flight times and fares. The experience of Independence Air and ExpressJet operating not as legacy regional affiliates but under their own brand vividly demonstrates the financial and marketing difficulties that regional airlines face when trying to operate on their own. Independence Air lasted 18 months before failing. ExpressJet's branded operations lasted only three months longer. ExpressJet returned to flying as a regional affiliate only in September 2008.

Figure 3.2.   Horizon Airlines serves Kalispell, Montana, with a Bombardier Q-400.

Small Communities and Low-Cost Carriers

LCCs such as Southwest, AirTran, Frontier, JetBlue, and Virgin America use a different business model, providing mostly point-to-point service. These carriers focus on business travel in denser markets, but tend to avoid using congested hubs, flying instead to and from secondary airports in or near major metropolitan areas. LCCs do not operate hubs *per se,* although they offer connecting opportunities for many passengers through "focus" airports like Baltimore/Washington International Thurgood Marshall, Hartsfield-Jackson Atlanta, or Dallas Love Field.

Figure 3.3.   SkyWest provides United Express service to Bakersfield, California, with an Embraer 120.

LCCs tend not to serve smaller communities. Their fleets are not appropriate for the amounts of passenger traffic that those communities generate.

Table 3.1.   LCC fleets (as of September 2008).

Airline	Aircraft Type	Seating Capacity
Southwest	B737	122–137
JetBlue	A320	150
	E190s	100
Frontier	A318	114–118
	A319	132–136
	A320	162
	Q-400 (Lynx)	74
AirTran	B737s	137
	B717	117
Virgin America	A319	122
	A320	149

They may also serve smaller communities like Burlington, Vermont; Wichita, Kansas; or Pensacola, Florida; but those are the exceptions rather than the rule. LCCs tend not to serve smaller communities because their focus on business traffic in larger markets means they do not operate aircraft appropriate for small communities. Table 3.1 shows the fleets of the main U.S. LCCs. Except for JetBlue's 100-seat Embraer ERJ 190 aircraft and Frontier subsidiary Lynx Aviation's 74-seat Bombardier Q-400s, LCCs do not operate smaller regional aircraft.

Small Communities and Niche Airlines

Airlines that cater to a particular market segment—or niche—sometimes provide specialized services to small communities. Niche airlines serve major leisure destinations such as Orlando, Las Vegas, or the Caribbean and may also fly to other major U.S. cities, usually in southern states (e.g., Phoenix or Tampa). Depending on the airline, they may operate from smaller airports that are nonetheless close to substantial populations. U.S. niche airlines include Allegiant Air, Spirit Airlines, and USA 3000 Airlines.

Allegiant focuses on flying travelers from 51 smaller cities to leisure destinations such as Las Vegas, Nevada; Phoenix, Arizona; and Fort Lauderdale, Orlando, and Tampa/St. Petersburg, Florida. The carrier operates a low-cost, high-efficiency airline offering air travel both on a stand-alone basis and bundled with hotel rooms, rental cars, and other travel-related services.

During the second quarter of 2008 Allegiant Air announced new service, including the following:

- Bellingham, Washington, to San Diego and San Francisco
- Santa Barbara, California, and Monterey, California, to Las Vegas
- Wilmington, North Carolina, to Orlando
- Grand Forks, North Dakota, and Casper, Wyoming, to Las Vegas

Spirit and USA 3000 operate mostly from larger cities to destinations in the Caribbean and Latin America.

Since the industry was deregulated in 1978, commercial airlines have struggled to find business models that are viable over the long term.

What are the most significant recent trends in the airline industry?

Since deregulation, commercial airlines have struggled to find business models that are viable over the long term. Airlines have consistently labored to control their costs while generating enough revenue to earn a return on investment. According to the Air Transport

Association, since the industry's inception, it has failed to generate a long-term positive net operating profit.

Despite these challenges, the industry has attracted new entrants that believe they can operate successfully. New competition forces a competitive response from incumbents. The net result has been that most consumers have enjoyed long-term decreases in ticket prices when adjusted for inflation. Consumers also have more choices of airlines that are competing in more markets, allowing them to fly to more destinations on either a nonstop or one-stop basis. New entrants have also brought new technology to in-flight entertainment, with live television programs and satellite radio.

However, many small communities have great difficulty attracting and retaining service. Congestion and delays are much worse than in years past. Many U.S. carriers have not been able to invest in new aircraft in a number of years, and passengers' on-board perceptions reflect that wear and tear on the equipment. Older equipment needs more maintenance. Some legacy airlines are charging fees for items that were formerly included in the price of a ticket.

How did the industry come to this point?

The industry has a long-term record of growth in total capacity and enplanements. The demand for air travel is closely related to growth in national economic activity (as measured by the Gross Domestic Product). As shown in Figure 3.4, the total amount of capacity offered by commercial airlines and the total number of passenger enplanements have risen relatively constantly, except
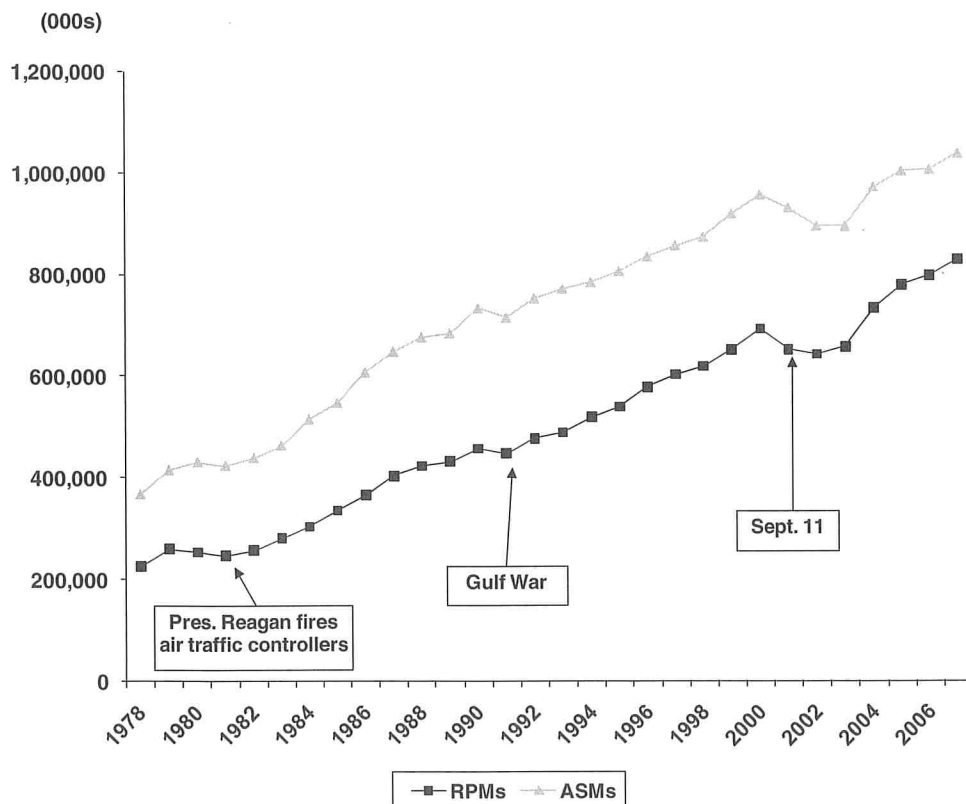
Note: Capacity is expressed in available seat miles (ASMs)—a measure of the number of seats available for purchase and the total number of miles those seats are flown. Passenger demand is expressed in terms of revenue passenger miles (RPMs), which counts the number of ASMs for which a passenger has paid.

Figure 3.4.   Capacity and traffic have grown over time.

for times of significant economic downturn (often precipitated by major external shocks, such as the first Gulf War; the events of September 11, 2001; and the 2008 spike in fuel costs).

Commercial aviation has historically experienced pronounced business cycles. As the industry has grown, so too have the peaks of profitability and troughs of losses. Figure 3.5 illustrates the swings in net operating profits since the industry was deregulated. It highlights the five years of losses that began with the first Gulf War, followed by the six-year period of profitability in the late 1990s, and the significant losses that severely crippled the industry beginning in 2001.

The increasing penetration of LCCs has contributed to the industry's difficulties in generating "enough" passenger revenue to earn net operating profits. LCCs' abilities to offer lower airfares force network carriers to offer competitive fares as well. For many years, the major network airlines were able to fend off start-up LCCs. Many of those new entrants suffered from strategically questionable business plans and/or a lack of sufficient capital to withstand a prolonged competitive response from incumbents. Carriers like Air South, Kiwi International Air Lines, Legend Airlines, Western Pacific Airlines, and Vanguard Airlines briefly competed in various markets.

Beginning in the late 1990s, however, other new entrants were able to adopt the Southwest model more successfully. They came into the industry with considerably more capital and better management. These carriers managed to compete head-to-head with the legacy network airlines and survive both the downturn associated with the "dot.com" bust and the events of September 11, 2001. These LCCs—Southwest, AirTran, Frontier, Virgin America, and JetBlue—have slowly expanded their overall market penetration. According to the GAO, these carriers compete in about 40 percent of the nation's largest 5,000 markets (which account for more than 90 percent of total passenger traffic) (4). Bombardier reported that LCCs' share of U.S. domestic capacity has grown to 27 percent (see Figure 3.6) (5).
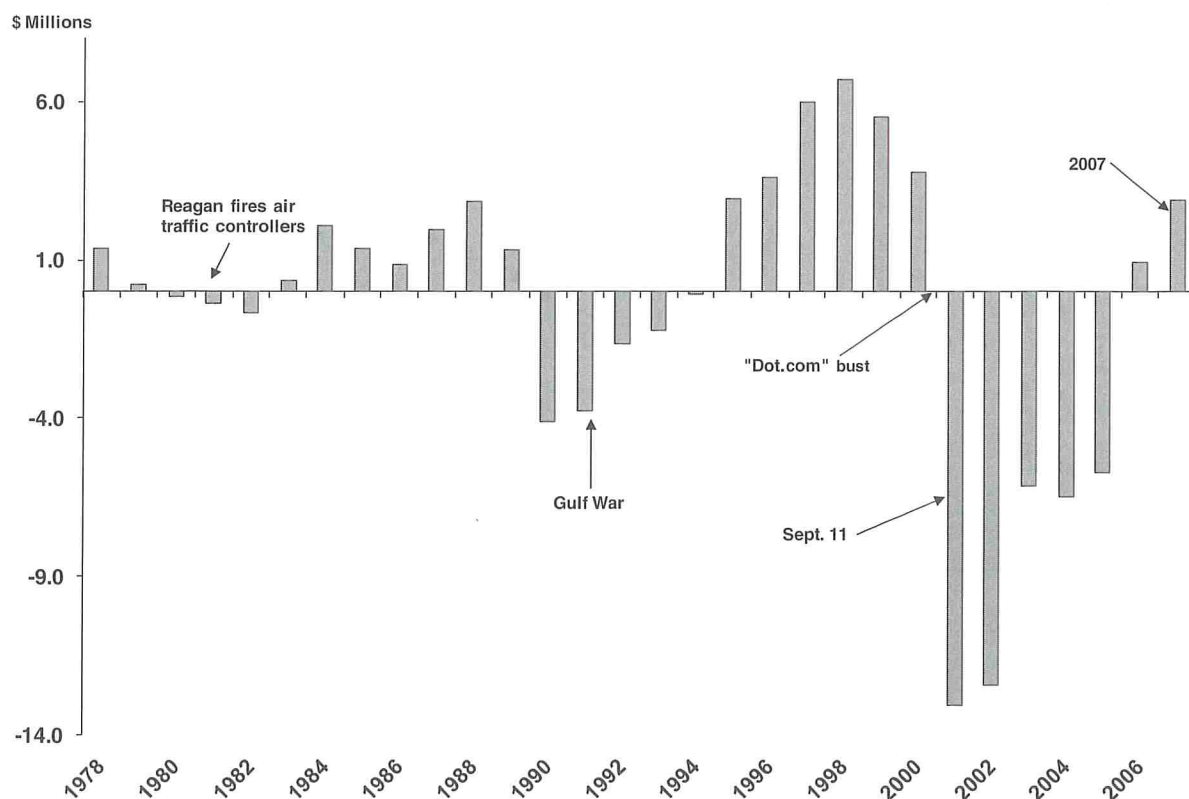
Figure 3.5.   Cyclicality of U.S. commercial airlines' net operating profits.

Year	Regional	Low Fare	Mainline
2000	0.69	0.16	0.15
2001	0.66	0.18	0.16
2002	0.64	0.19	0.17
2003	0.60	0.21	0.19
2004	0.57	0.22	0.21
2005	0.54	0.23	0.23
2006	0.51	0.26	0.23
2007 Q1	0.50	0.27	0.23

■ Regional   ▢ Low Fare   ☐ Mainline
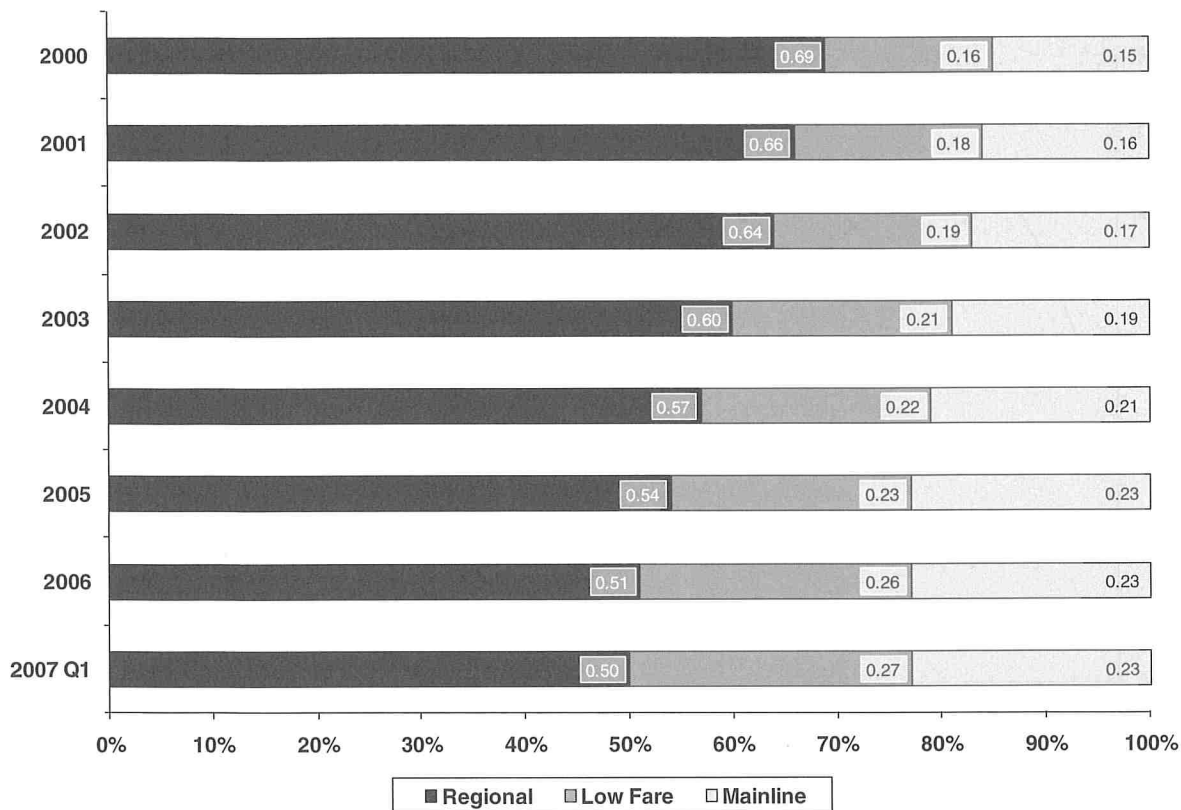
Source: Bombardier Corp.

Figure 3.6.   Capacity shares held by mainline, regional, and low-cost carriers.

Markets are becoming more competitive. GAO's 2008 report indicated that the average number of competitors in the largest 5,000 city-pair markets has increased since 1998. The increased competition—especially from LCCs—added pressure on all airlines to keep airfares as low as possible. As a result, average fares have fallen over time. Between 1998 and 2006, the round-trip average airfare in the top 5,000 markets fell from $198 to $161 (in 2006 dollars), a decrease of nearly 20 percent. Expressed in terms of passenger yields (that is, fares paid divided by the total miles flown), airlines have had difficulty raising fares. See Figure 3.7.

Increased fare competition has pressured airlines to reduce their operating costs to improve their financial positions and better insulate themselves from the industry's boom and bust cycles. Excluding fuel, unit operating costs for the industry [typically measured by cost per available seat mile (CASM)] have decreased 16 percent since reaching peak levels around 2001. Despite the efforts made by legacy carriers, the cost gap between legacy and low-cost airlines still exists.

Increased competition has pressured airlines to reduce operating costs.

In the difficult years immediately after September 11, 2001, many airlines achieved dramatic cuts in their operational costs by negotiating contract and pay concessions with their labor unions, through bankruptcy restructuring, and through personnel reductions. For example:

- Northwest Airlines pilots agreed to two pay cuts—15 percent in 2004 and an additional 23.9 percent in 2006, while in bankruptcy—to help the airline dramatically reduce operating expenses.
- Frontier used its recent bankruptcy protection to break ties with its regional partner Republic Airways. Republic flew the 76-seat Embraer 170 in its code-sharing relationship with Frontier. Frontier subsidiary Lynx Aviation will replace that capacity with its Q-400s, which burn 30 percent less fuel.

Source: InterVISTAS analysis of U.S.DOT data.

Figure 3.7.   Average yields have declined.

- Legacy airlines cut personnel as another means to reduce costs. The average number of employees per legacy airline decreased 26 percent from 1998 to 2006.
- Several airlines also used bankruptcy to significantly reduce their pension expenses, as some airlines terminated and shifted their pension obligations to the U.S. Pension Benefit Guaranty Corporation.

As is now well known, fuel costs soared over the last few years before collapsing in the second half of 2008. In early 2008, jet fuel climbed to over $2.85 per gallon. By comparison, jet fuel was $1.11 per gallon in 2000, in 2008 dollars. As shown in Figure 3.8, despite the downturn in jet fuel costs, total industry fuel expenses in 2008 approached $60 billion—nearly four times total industry expenses in 2003.

As a result, cost savings that the industry achieved from labor have been more than offset by increases in the cost of fuel. (See Figure 3.9.) Historically, fuel expenses ranged from 10 percent to 15 percent of U.S. passenger airline operating costs. Now, those costs are between 35 percent and 50 percent.

Many industry experts believe that airlines simply are not able to raise fares sufficiently to cover the costs of increased fuel charges, at least not at this point in time, without losing considerable portions of their passengers. For example:

- "The industry can attempt to pass on its higher fuel costs in the form of multiple fare increases, but given the elasticity of demand, only so much can be done without substantially reducing domestic capacity. We continue to believe that there is likely to be another large cut to domestic capacity in 2H 2008 if the industry does not see any relief from record high fuel prices." —Merrill Lynch Equity Research (6)
- "[R]aising airfares isn't like raising the price of milk at the grocery store. Consumers have almost perfect information for price comparisons—the Internet can hunt the cheapest fare

Billion dollars

Billion gallons

Legend: Expenses   Consumption
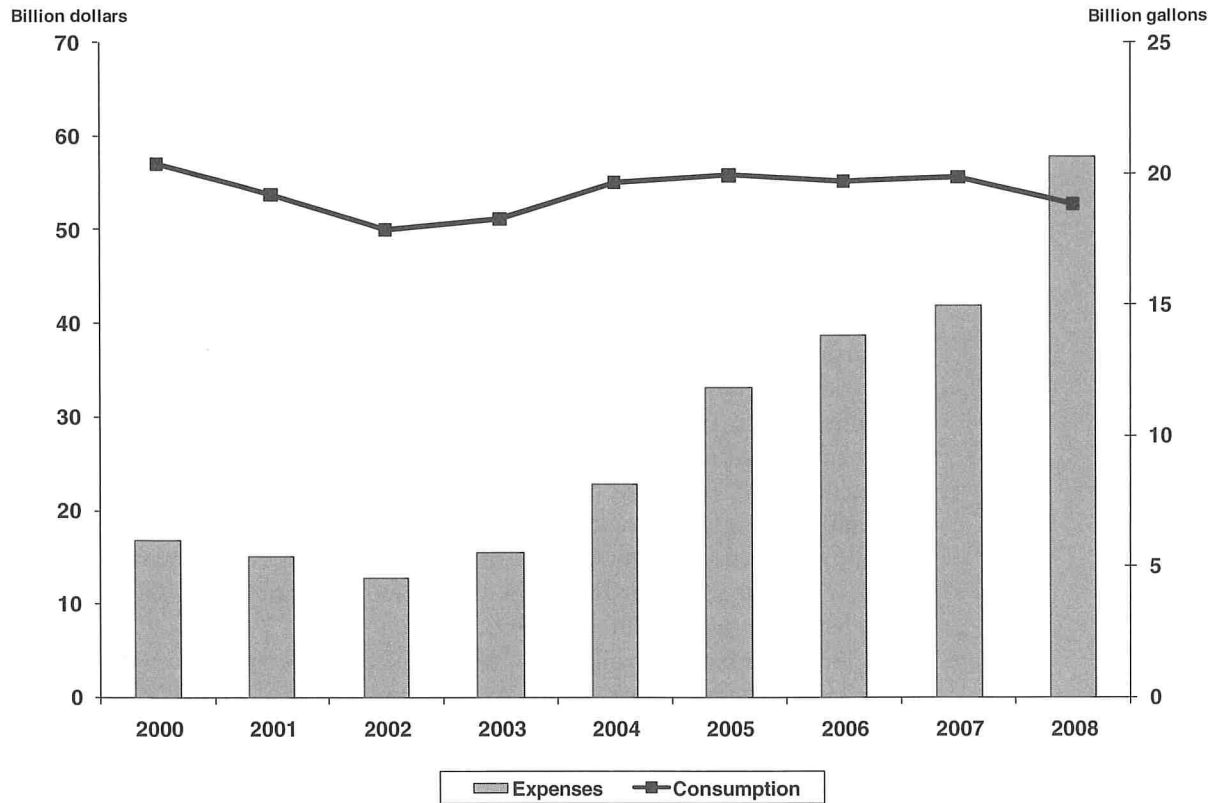
Figure 3.8.   Fuel costs have soared over the past five years.

Percent of operating costs

Legend: Fuel/Oil   Labor
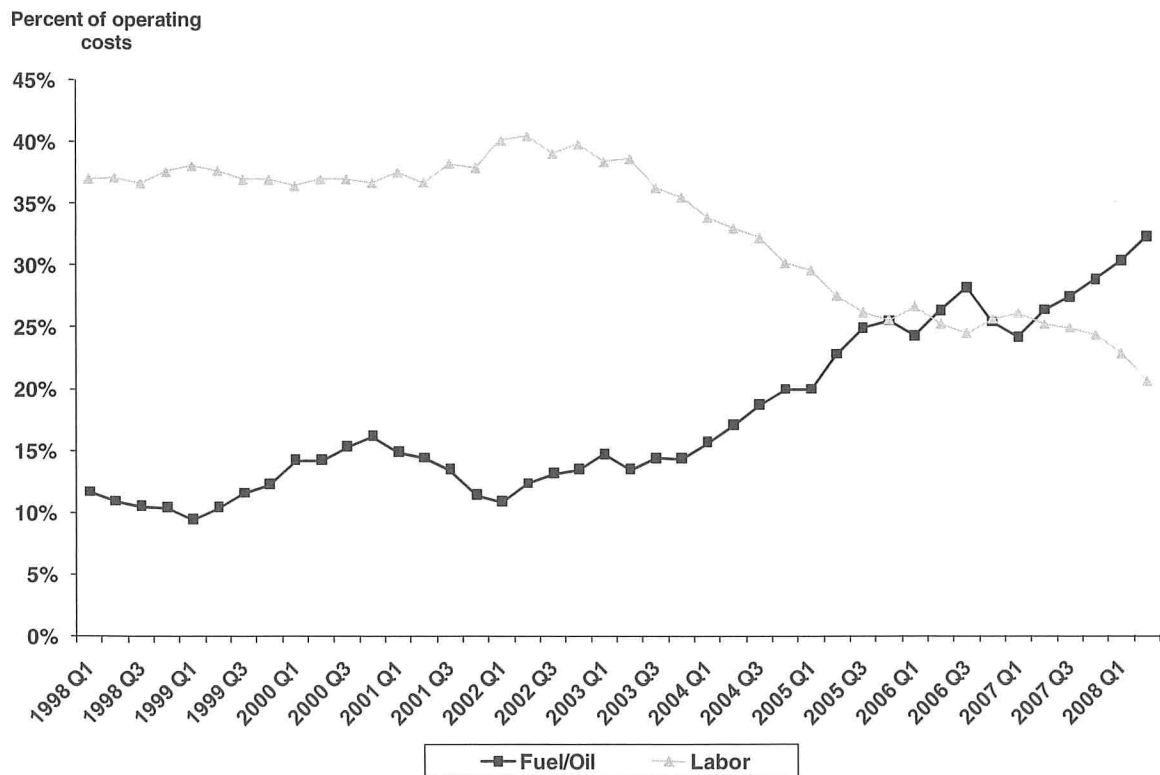
Figure 3.9.   Fuel costs now exceed labor.

worldwide in seconds. If one carrier has some empty seats to fill, it will have to cut the price because getting something for that seat is better than flying it empty. And there's lots of competition in the industry—some airlines have lower cost structures than others, or better fuel hedges, and can absorb more of the higher costs than others." —Scott McCartney, *The Wall Street Journal* (7)

In conjunction with a 2008 slowdown in the U.S. national economy causing consumers to reduce discretionary spending, carriers have begun to take extraordinary measures to reduce fuel costs and cut capacity. For example:

- US Airways announced that it will reduce its domestic mainline capacity by 6 to 8 percent in the fourth quarter compared with a year earlier, and slash capacity in all of 2009 a further 7 to 9 percent. It will return 10 narrowbody aircraft to lessors by 2009 and cancel leases of two widebody aircraft. The carrier announced that it will cut 300 pilots, 400 flight attendants, 800 airport employees, and 200 staff and management employees.
- Continental will reduce its domestic capacity by 11 percent. Continental's capacity in Cleveland will drop 13 percent and it will cut service to 24 cities.
- United announced that it would reduce its mainline domestic capacity after the summer travel season, eliminating 30 older 737s from its fleet. At the end of 2008, United's domestic capacity will have decreased by 6 to 7 percent.
- Ten airlines have filed for bankruptcy or ceased operations since December 2007, with many citing the significant increase in fuel costs as a contributing factor. The airlines that filed for bankruptcy or ceased operations in 2008 included Air Midwest, Aloha Airlines, ATA Airlines, Big Sky Air, Champion Air, EOS Airlines, Frontier Airlines, MAXjet Airways, Skybus Airlines, and Sun Country.
- ExpressJet suspended its "branded flying" (i.e., flying not as Continental Express or Delta, but as ExpressJet). The regional carrier connected many smaller communities with its 29 ERJ 145s. Despite flying 503 million revenue passenger-miles (RPMs) and a load factor of 71 percent in the second quarter of 2008, record-breaking fuel prices forced the airline to abandon those operations on September 2, 2008.

The Cost and Revenue Challenges of Operating Small Aircraft

U.S. network airlines have moved toward using regional partners' smaller aircraft, because of cost reasons.

Over time, U.S. carriers have been flying more capacity and more passengers in increasingly smaller aircraft. Carriers now operate very few widebody aircraft in domestic service. Since 2003, the number of departures by widebody aircraft has decreased 46 percent. On the other end of the aircraft spectrum, the use of turboprop aircraft has also decreased. Figure 3.10 illustrates the change in the use of turboprop, regional jet, and narrowbody aircraft since 2003. It indicates that regional jet usage remains slightly higher than 2003 levels. Turboprop departures, on the other hand, have dropped by nearly 25 percent.

Airlines have moved toward smaller aircraft in part because those aircraft are operated by regional affiliates, which have a lower cost structure than mainline operations. In larger markets, using smaller aircraft gives network carriers an option to offer additional frequencies spread throughout the day, which allows passengers—especially business travelers—more flexibility in when they can travel. In other communities, using smaller aircraft also allows carriers to offer service because the capacity is better suited for smaller markets.

Smaller aircraft also allow for greater frequencies.

The Regional Airline Association (RAA) notes the importance of regional aircraft to the U.S. national aviation system. In 2007, regional airlines:

- Operated a fleet of 2,462 aircraft, with an average size of 52 seats;
- Completed nearly five million departures, with an average stage length of 464 miles; and
- Provided the only scheduled service at 70 percent of the U.S. airports that received commercial service.

Source: Inter*VISTAS* analysis of DOT data.

Figure 3.10.   Percent change in use of aircraft since 2003.

Over recent years, the average size of the regional fleet has slowly increased. The number of 19- to 37-seat turboprop aircraft in the regional fleet has slowly dwindled, replaced by larger regional jets. Now, the most widely used aircraft in the regional fleet are the 50-seat regional jets manufactured by Bombardier and Embraer (Table 3.2), and more flying is now being done in 70- and 90-seat jets.

The popular tide began to turn against small regional jets (RJs) in the last few years. As network airlines replaced mainline flying with RJs and began deploying RJs over longer routes, passengers became less enamoured with the aircraft. Passengers complained about their cramped interiors and relatively poor ergonomics compared to the larger narrowbody aircraft in which they were accustomed to flying.

RJ costs have also risen recently, making them less attractive to mainlines. Fuel costs have been even more important to RJs. The critical difference between the two types of aircraft is that regional jets simply have fewer seats across which an airline can spread uncontrollable costs—such as fuel. So as fuel costs have risen, so have RJs' unit costs. Fuel might account for 25 percent of the cost of flying a mainline jet, but it can be 40 percent or more of the cost of flying a regional jet. With American Eagle's Embraer 145 operations, fuel costs have risen from 26 percent of operating costs to nearly 50 percent. See Figure 3.11.

In response to the increase in fuel cost and airlines' inability to pass all of those costs through to passengers because of slackening demand, carriers had little choice except to reduce their capacity. Figure 3.12 summarizes the cuts that carriers announced for the last quarter of 2008. The reductions allowed the airlines to remove some of the more inefficient aircraft from their fleets, but it also meant decreases in services and competition at many communities.

Because of rising fuel costs and their inability to pass those costs on to passengers in a declining market, carriers had no choice except to decrease capacity.

Table 3.2.   U.S. regional fleet (as of July 2008).

Company	Aircraft Type	Average Seats	Number in Service	Total Seats
Bombardier	CRJ 100 / 200	50	748	37,400
Embraer	EMB 145	50	524	26,200
Bombardier	CRJ 700	70	230	16,100
Embraer	EMB 135	37	157	5,809
Embraer	ERJ 170	70	137	9,590
Saab	Saab 340	35	135	4,725
Bombardier	DHC-8 100 / 200	37	125	4,625
Bombardier	CRJ 900	86	110	9,460
Raytheon	Beech 1900	19	79	1,501
Embraer	EMB 120	30	68	2,040
Bombardier	DHC-8Q-400	74	58	4,292
ATR	ATR 72	60	51	3,060
Cessna	Cessna 402*	9	49	441
Bombardier	DHC-8Q-300	50	39	1,950
Bombardier	DHC-6	19	20	380
Cessna	208-Caravan	10	13	130
Britten Norman	BN Islanders	9	8	72
Embraer	ERJ 190*	106	8	848
Fairchild/Dornier	Metro	19	6	114
Piper	Chieftain*	9	4	36
Reims-Cessna	406	9	4	36
ATR	ATR 42	48	2	96
Raytheon	B200	9	2	18
Embraer	EMB 110	15	1	15
Convair	340/440	50	1	50

*Includes only aircraft for RAA members.
Source: Regional Airline Association 2008 Annual Report

Continental, for example, announced a total capacity reduction (mainline and regional) of 6.4 percent compared to the prior year, beginning in September 2008. It plans to reduce regional operations from Cleveland to 24 cities, most of which were served by its Continental Connection regional partners. Some of the smaller cities losing service included Toledo, Des Moines, Tulsa, and Green Bay.

Delta expects to cut service to smaller markets by eliminating 60 to 70 regional jets by the end of 2008 and reducing the number of regional carriers it uses. According to Credit Suisse, Delta is cutting service in markets where there is no direct competition, such as in Cincinnati and Salt Lake City. Another target for cuts is regional nonstop flights that bypass hubs, which the carrier does not believe are economical in this fuel environment.

Very Light Jets and Air Taxis—an Emerging or a Dying Niche?

Generally speaking, very light jets are jet aircraft with a maximum take-off weight of 10,000 pounds, certified for single pilot operations, equipped with advanced avionic systems, and priced below other business jets. Two models of VLJs—the Cessna Citation Mustang and Eclipse 500 (See Figure 3.13)—received FAA type and production certification and began delivering aircraft.

Market conditions in 2008 and 2009 have seriously hampered the development of this niche. DayJet Corporation operated a fleet of Eclipse 500 aircraft in the U.S. Southeast, connecting

**Percent of operating
expenses**
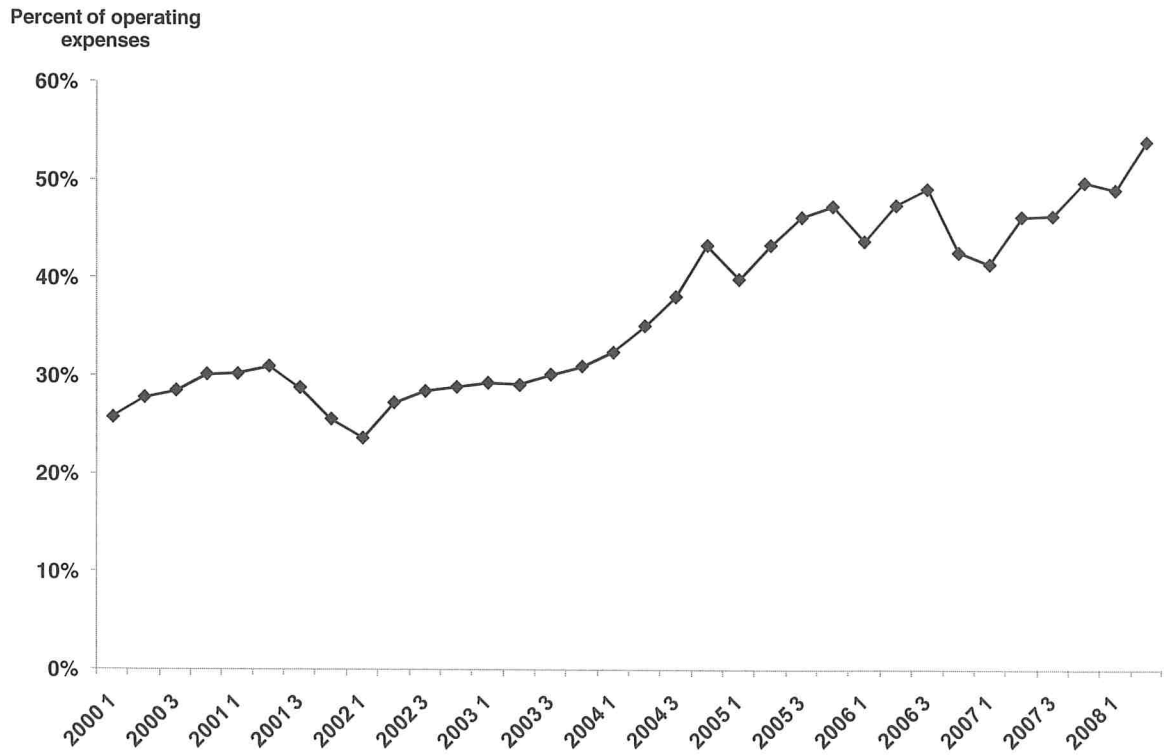
Figure 3.11.   Fuel costs represent nearly half of American Eagle's Embraer 145 operating costs.

**Decreases in Available
Seat Capacity**
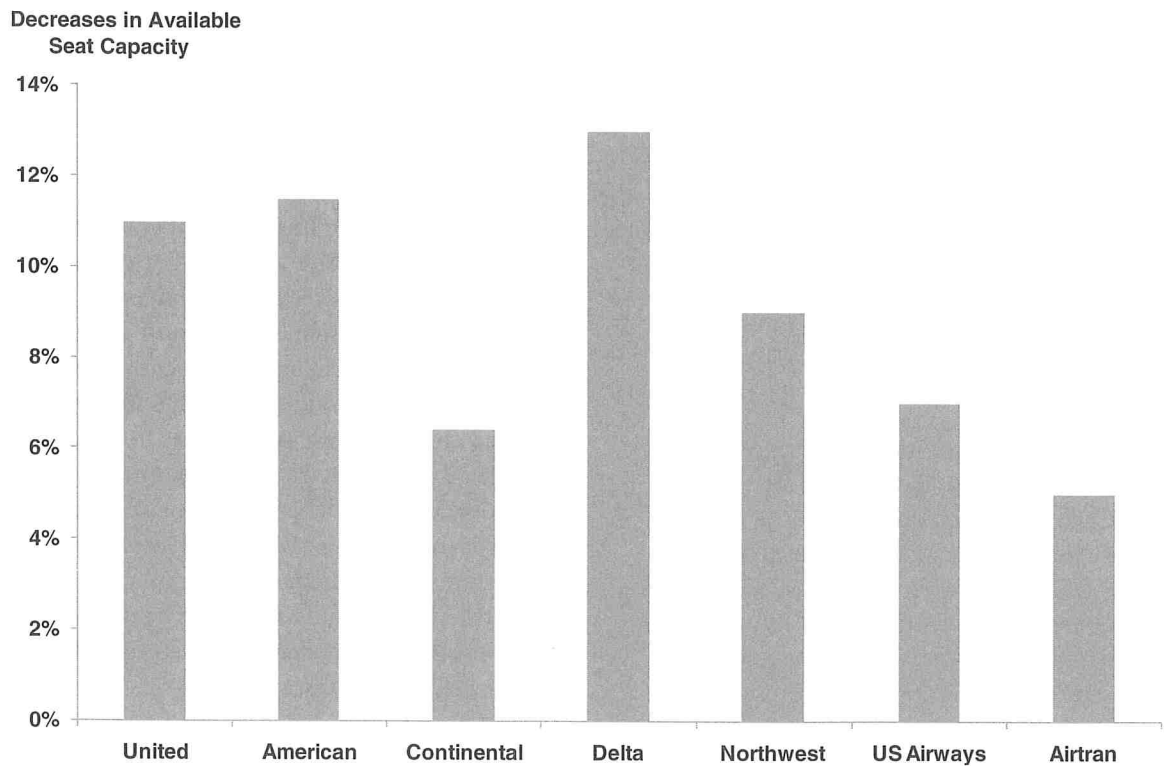
Figure 3.12.   Announced airline capacity reductions, fourth quarter 2008.

Source: Image courtesy of Eclipse Aviation

Figure 3.13.   VLJ aircraft.

more than 60 community airports across Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina. In late September, however, DayJet notified FAA that it planned to halt its air taxi operations for economic reasons. Former American Airlines CEO Robert Crandall, who planned to launch a charter operation called Pogo using the Eclipse, has also decided to ground those plans.

Explanatory example of U.S.DOT's ability to revoke a carrier's certificate

Boston-Maine Airways Corp. (BMAC) began flying in 2001 with a fleet of seven 19-seat Jetstream 3100 aircraft. BMAC conducted business as "Pan Am Clipper Connection" and flew scheduled passenger service between various small cities. At various times, BMAC served Portsmouth, New Hampshire; Bedford, Massachusetts; Cumberland, Maryland; Tunica, Mississippi; and Trenton, New Jersey; among other locations.

In April 2008, acting under its authority to ensure that air carriers are "fit, willing, and able" to provide service, U.S.DOT revoked BMAC's operating certificate. U.S.DOT concluded the carrier did not possess the (1) financial wherewithal to continue or expand its operations without posing an undue risk to consumers and their funds, (2) managerial competency to oversee its current and proposed operations, and (3) proper regard for laws and regulations concerning safety standards and acceptable consumer relations practices.

What are the key relevant regulatory issues?

The Airline Deregulation Act phased out federal control over airline pricing and routes in 1978, but the federal government continues to maintain some regulatory control over the industry, particularly in terms of economic licensing and safety. Describing these federal responsibilities thoroughly would require volumes. For example, airport rates and charges are governed by a large body of federal laws, regulations, agreements, and court decisions. Moreover, those policies are changing frequently. (As an example, the FAA proposed a policy that would allow operators of congested airports to use landing fees to provide incentives to airlines to operate at less congested times or to use alternative airports.) This guidebook does not offer definitive guidance on what may or may not be permissible under all situations. Questions about whether specific policies or charges are consistent with FAA guidance should be referred to an attorney. A few permissible policies and charges are highlighted in the following paragraphs.

The U.S.DOT regulates who may operate commercial airlines in the United States. To provide interstate or foreign passenger and/or cargo service, carriers must obtain a "certificate of public convenience and necessity" from the Office

of the Secretary of Transportation. U.S.DOT may grant "economic" authority for a carrier to operate only after finding that it is "fit, willing, and able" to do so. Recently, not all airlines have been able to meet that "economic fitness" test.

Applicants must then obtain a separate "safety" or "airworthiness" certificate from FAA before the carrier is allowed to operate. FAA's regulatory policy is premised on an "obligation of the air carrier to maintain the highest possible degree of safety." Before it will issue an operating certificate, FAA must be satisfied that an air carrier is capable of operating safely and complies with applicable regulations and standards.

The FAA exercises other safety responsibilities: (1) verifies that an air carrier continues to meet regulatory requirements by conducting periodic reviews and (2) continually validates the operational safety performance of air carriers. It does so through regular inspections. FAA can revoke the operating certificate of airlines that do not meet safety requirements.

In addition to its safety responsibilities, FAA oversees many aspects of airport operations, such as how airports can use their revenue. In a vast oversimplification, airports can use revenues generated by the airport only for capital or operating costs of the airport.

Safety rule that affected small community service directly

One significant change in safety requirements that influenced small communities was the adoption of the Commuter Safety Initiative (or "Commuter Rule") in 1995. This rule set a single level of safety for all travelers by applying the stricter standards of major airlines (Federal Aviation Regulations, Part 121) to commuter airlines that had scheduled passenger operations and/or used aircraft seating 10 to 30 passengers or propelled by turbojets. These stricter standards imposed new requirements on commuter air carriers relating to airplane performance and flight crew training and qualifications such that small carriers' operating costs increased. This cost hampered the ability of regional airlines to use small aircraft—especially 19-seat turboprops—in many markets. Now, aircraft that size is seldom used except in markets that are federally subsidized through the Essential Air Service program.

Those operating costs include promotional costs. Federal policy generally holds that airport operators can use airport revenues to finance the promotion or marketing of the airport and/or the introduction of new air service, and to encourage competition at the airport. Airport operators can also use airport revenues for "cooperative airport-airline advertising." Airport operators can use airport revenues to pay a portion of other advertising and promotional activities, but only if the airport is referenced in the materials.

Airports' incentive programs must be consistent with various legislative and regulatory requirements. There are several, but they notably include:

Federal policy generally allows airport operators to use airport revenues to finance ASD activities and encourage competition at the airport.

- 49 USC 41713, which broadly prohibits any public organization from enacting laws, rules, or regulations that affect the price, route, or service of an air carrier;
- 49 USC 47107, which requires the following with respect to incentives:
  - The airport be available for public use *on reasonable conditions and without unjust discrimination,* and
  - Air carriers making similar use of the airport will be subject to *substantially comparable charges* [emphasis added]; and
- 49 USC 47133, which generally prohibits the use of revenues generated from an airport from being used for anything except the capital or operating cost of the airport.

Airports must follow particular grant assurances. Under the three that come into play most often with incentive programs, airport operators and/or sponsors agree generally to abide by the following:

- **Economic non-discrimination:** to make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds, and classes of aeronautical

activities, including commercial aeronautical activities offering services to the public at the airport.

- **Exclusive rights:** to permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public.
- **Fee and rental structure:** to maintain a fee and rental structure for the facilities and services at the airport that will make the airport as self-sustaining as possible.

See Chapter 8 for additional information on airport incentive programs.

Summary

- Most small communities remain connected to the national aviation system through network airlines' hub-and-spoke systems. While those systems may not provide as many nonstop opportunities as some travelers might want, they nevertheless generally offer competitive one-stop alternatives.
- With the growth of the U.S. low-cost industry segment, increasing numbers of Americans have access to the competition in many larger markets. Leisure travelers in many markets also benefit from niche carriers' service to major leisure destinations.
- Increasing levels of competition—especially from LCCs—have helped push down average airfares for the vast majority of U.S. passengers.
- Even in "normal" times, providing service to smaller communities is a challenging proposition for airlines because of the need to match limited passenger demand—and its corresponding limited revenue—with the right amount of capacity, while controlling operating costs. Network airlines provide service to small communities by extending service from their hubs with code-sharing regional carriers. Those regional airlines offer many advantages for legacy airlines in allowing them to extend their branded networks and provide seamless travel to communities that could not support service from larger aircraft.
- Over time, the fleet used by regional carriers has tended to increase in size. Changing regulatory safety requirements increased the costs of operating smaller aircraft. Evolving aircraft technology and provisions in airline-labor agreements led to a proliferation of regional jets in the late 1990s, which passengers tended to prefer over turboprops with visible propellers.
- However, the cost of operating all these aircraft has soared in the last couple years because of the price of fuel. Coupled with the effect that energy costs have had on the economy as a whole, most major airlines have announced significant cuts in service beginning in late 2008.
- Fuel costs dramatically influence the viability of RJ service to some smaller communities. As their operating costs have increased and passenger demand has dropped, markets that might have been marginally profitable have suddenly become very unprofitable. These changes have forced airlines to re-examine their service options.

Understanding the Key Challenges to Viable Air Service at Smaller Communities

Each of the 426 small and non-hub airports in the United States operates under its own unique set of circumstances that present challenges to its ability to retain or enhance commercial air service. While each airport is unique, they share many common traits. In this chapter are described the common major challenges that small communities face in operating viable air service.

How do local demographic and economic characteristics influence air service?

Chapter 2 discussed some of the factors that airlines take into account in deciding whether to serve a particular location and the extent to which communities might be able to influence those decisions. The basic underpinning of those was passenger demand. There are fundamental and direct relationships between population, economic strength, the availability of competitive alternatives, and the amount of air service that carriers believe a community can support.

All else being equal, communities with more population, employment, and income will demand more air service. As passenger demand increases, the supply of air service will increase to meet that demand. Communities with greater levels of income and gross regional product and larger populations and employment levels will receive more substantial air service.

A second key aspect of passenger demand at a smaller community is the availability of alternatives. Travelers to or from smaller communities will demand more air service if the alternatives to that air service (e.g., service at another airport or the availability of interstate highways) are either costly or unavailable. In other words, communities that are farther from an airport with an LCC may receive "better" service.

Research has statistically quantified the differences in air service accounted for by differences in these key variables. For example, a 2002 federal government study of how air service at small communities changed following the events of September 11, 2001, discussed the basic economic principles that affected commercial air service (8). In an economic analysis of changes in air service among 202 small communities, it reported the following:

- For every additional $5,000 in per capita income, a community received 3.3 and 12.7 more jet and turboprop departures per week, respectively. In other words, if two small communities, A and B, were identical in every way except that Community A had $5,000 more in per capita income than Community B, then Community A had roughly 16 more total departures per week than Community B. This difference in the number of total departures was attributable to the difference in per capita income.
- A community received 4.3 and 4.8 more jet and turboprop departures per week, respectively, for every additional 25,000 jobs in the community.

There are fundamental and direct relationships between population, economic strength, the availability of competitive alternatives, and the amount of air service that carriers believe a community can support.

- A community with $250,000 more in manufacturing earnings received 4.8 more jet departures per week than an otherwise similar community.
- A community received 4.7 more jet departures per week for every additional 50 miles separating the airport from an LCC.

The 41 airports surveyed had estimated average catchment area populations of about 600,000. Non-hub and small hub airports differed significantly in terms of those populations: an average of 395,000 versus an average of 950,000.

An additional variable that influences demand at small airports is their association with regional or natural attractions that may cause significant seasonality in demand. For example, airports in or around ski resorts may receive significantly more service during the winter months, which drops off dramatically during the summer. Service to some southern resort locations—such as Palm Springs, California—can also be seasonal: average daily departures drop as the average temperatures soar. See Figure 4.1.

What are small airports' most common competitive challenges?

Although small communities share certain fundamental economic characteristics, each is unique in terms of the size and economic characteristics of its catchment area; proximity to competing airports (perhaps a legacy carrier hub, an airport served by an LCC, or just a different airport with service from other airlines); or physical limits, such as the length of its runways.

Competitive Challenges Cause Passenger Leakage

Because of these challenges, almost all small airports suffer from a phenomenon in which the passengers who might naturally use the local airport choose instead to fly from a different airport. They may make that decision because they perceive that the fares are cheaper or because the other airport has service from a different airline, which may fly nonstop to a desired destination.
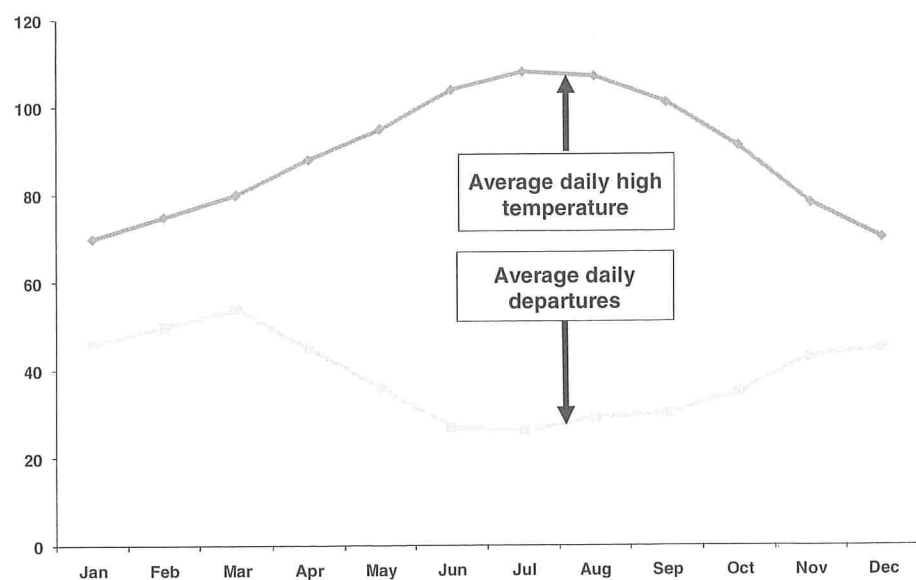
Figure 4.1.   Service in Palm Springs, California, is related to its temperatures.

This loss of nearby traffic to a competing airport is referred to as "leakage." Smaller community airports often have difficulty with passenger leakage. Nearly half of the nation's small community airports are within 100 miles of a large hub airport or another airport served by an LCC.

Surveyed airports confirmed that they lose a significant share of their potential passenger traffic to competing airports that are, on average, between 75 and 100 miles away. As shown in Figure 4.2, the situation is much worse for non-hub airports compared to small hub airports and is compounded when competing airports have relatively good highway access.

Airport managers and ASD officials believe that the primary reason they lose business passengers is the greater range of choices available at competing airports. This is particularly true of non-hub airports: Eighty percent of the airports surveyed thought that they lost passengers because travelers had more options with nonstops, arrival and departure times, and frequencies. (See Figure 4.3.) Easy highway access to those locations was also a factor. For business travelers, lower fares are also important (whether from legacy carriers or by LCCs), but are apparently not as critical as convenience.

Leisure passengers use alternative airports for one essential reason: access to lower fares. Surveyed airport managers overwhelmingly agreed that they lost potential leisure traffic because better fares were offered either from an LCC or a network carrier at a competing airport. Leisure travelers also valued access to other destinations with nonstop service.

Smaller community airports usually have difficulty with passenger leakage, because most are within 100 miles of a large hub airport or another airport served by an LCC.

Proximity to Legacy Network Hub

Many smaller community airports are relatively close to a legacy network carrier's hub. As shown in Figure 4.4, for example, Colorado Springs, Colorado, is less than 90 miles away from United's hub at Denver International. As a result, passenger traffic that the airport might otherwise
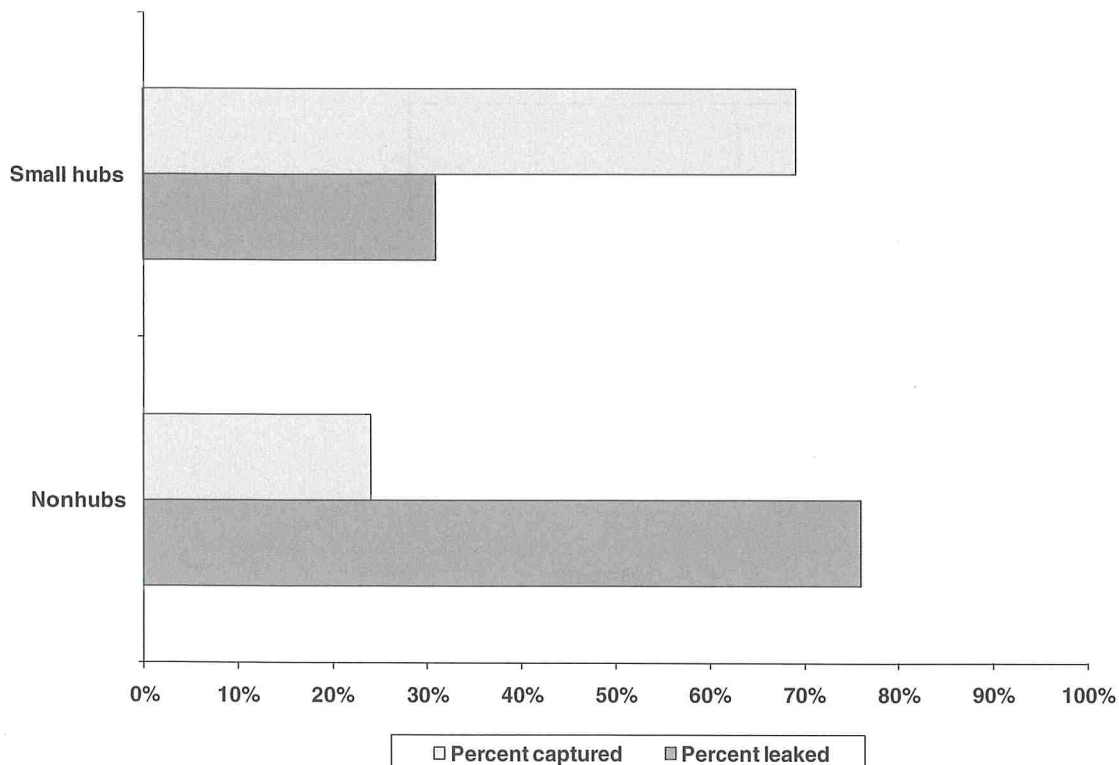
Figure 4.2.   Non-hub airports capture less than 25 percent of their potential passenger traffic.
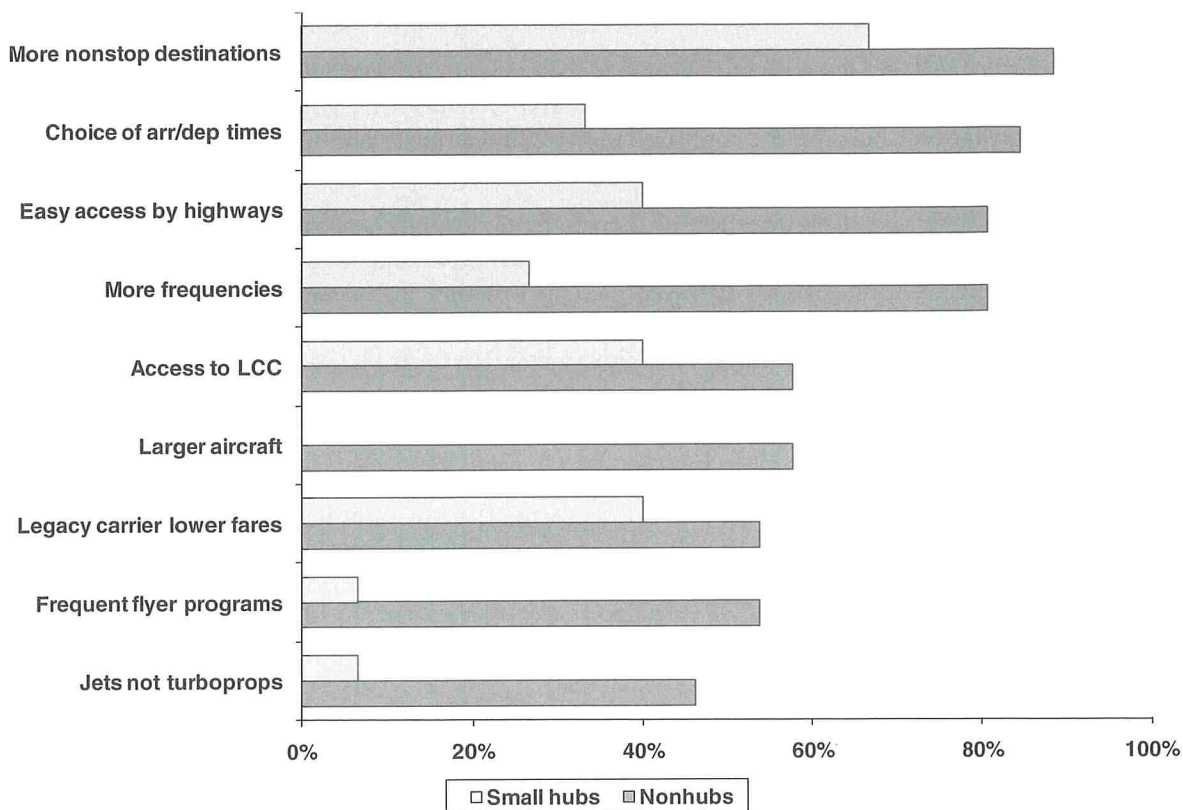
Figure 4.3. Why business passengers use other airports.

Figure 4.4. Colorado Springs is less than 100 miles from United's hub at Denver International.

have captured drives instead to the larger airport, which offers service to far more nonstop destinations, with multiple daily frequencies, often using larger aircraft. The ease with which passengers can reach those airports can vary, depending on whether they are connected via interstate highways. In addition, the distance travelers will consider driving to reach an alternative airport can vary significantly. Particularly in midwestern and western states, many people are willing to drive several hours to reach an airport served by a carrier offering lower fares. Attracting additional service to these locations can be challenging because carriers realize that passenger leakage to the hub will be difficult to reverse.

What reasons do passengers give for using another airport? Business passengers leak to larger airports because of:

- More nonstop destinations,
- Frequencies,
- Choice of arrival and departure times,
- Ease of access by highways, and
- Fares.

Leisure passengers leak to larger airports because of:

- Fares! Fares! Fares!

Proximity to Airport with LCC Service

Similarly, as LCCs have spread into more markets (albeit usually larger cities), many smaller communities are also close to an airport served by an LCC. As shown in Figure 4.5, Santa Rosa, California, for example, is less than 70 miles to either Oakland International Airport (served by Southwest, JetBlue, and Allegiant) or San Francisco International (served by Southwest, JetBlue, and Virgin America). Just as some travelers will drive relatively long distances to reach service at a hub airport, others will drive long distances to reach an airport served by Southwest, AirTran, or other LCCs. This phenomenon is particularly true for family leisure travel, because the fare
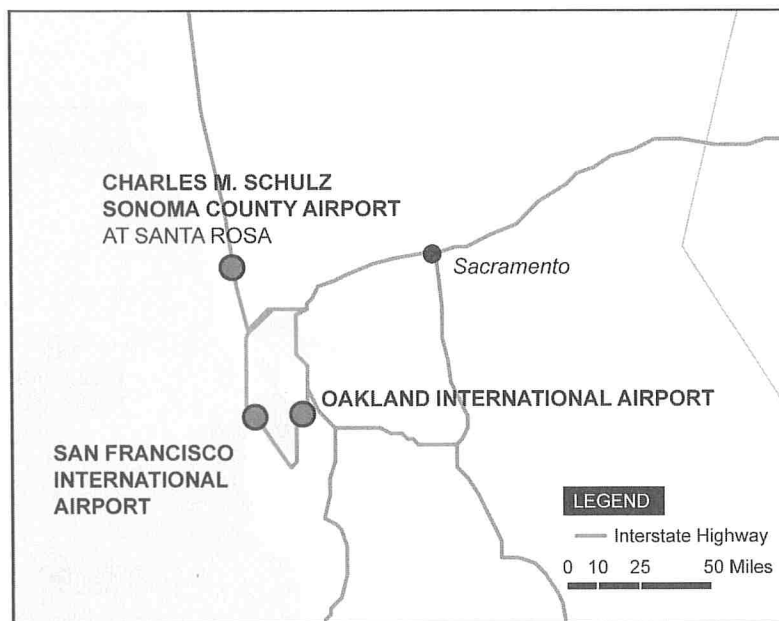
Figure 4.5.   Sonoma County Airport is close to airports in both San Francisco and Oakland.

differentials may be significant and leisure travelers do not always consider the value of their time, parking at the larger airport, and other expenses. Attracting more service to these airports can be difficult because the carriers realize that unless they can match the LCC's fares, a portion of the passengers will continue driving for LCC service.

Small Populations that are Geographically Isolated

Some smaller communities have difficulty attracting additional air service simply because they draw from an area with a relatively small population and a limited amount of economic activity. In addition, many of those communities may be in areas of the country that have traditionally been served by a single airline, such as many smaller communities in the upper Midwest long served by Northwest. If a smaller community has access to only one network, passengers have no competitive choices for reaching many points. Some of these communities may only receive service because the federal government subsidizes it through the Essential Air Service program.

Attracting competitive alternatives to those communities can be difficult, because of the challenges associated with overcoming the local passenger's affinity to the incumbent airlines and because the small markets have difficulty supporting more air service. Aircraft capacity and the length of haul to another carrier's hub can be hurdles.

Fragmentation of the Local Passenger Traffic Base among Competing Nearby Airports

Other smaller airports may not be in the figurative shadow of a hub or an airport served by an LCC, but they might be close to several other smaller airports that have commercial service. The result is that they compete among themselves for the available passenger traffic. The nearby airports usually are not served by the same network carrier, because that carrier understands that it can attract passengers to its service with its presence at just one of the locations. Attracting additional competition to one of those airports can be difficult because carriers believe that the overall catchment area is already quite competitive. As shown in Figure 4.6, passengers flying to or from the northern coast of the Gulf of Mexico have multiple choices among nearby airports.
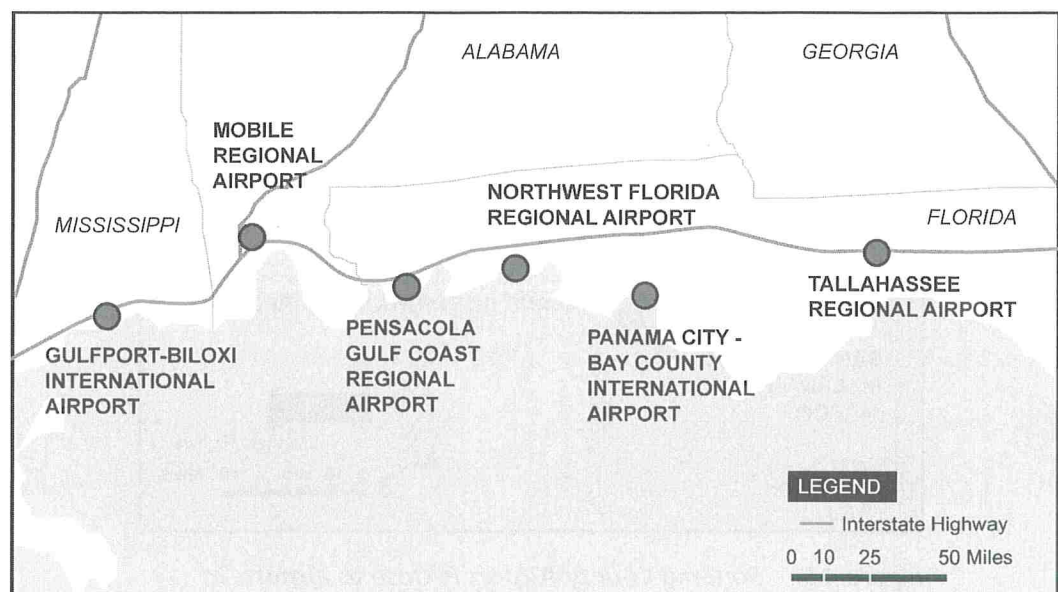
Figure 4.6.   Gulf Coast passenger traffic splits among several airports.

Predominantly Inbound Markets that Rely on Tourism

Some small communities are located near natural attractions that tend to be seasonal in nature. These may include major national parks (such as Yellowstone or Glacier) or ski resorts (such as Sun Valley, Idaho; Steamboat Springs, Colorado; or Rutland, Vermont). Year-round residents of those communities may have abundant service during the "high" season (although it may be expensive), but far less service during the off season. Certain airports, such as West Yellowstone, may only have service during parts of the year. Attracting additional service—even if it is only more off-season capacity—can be difficult for many of these communities, because airlines may not understand the permanent level of economic activity.

Many Small Communities Face Multiple Challenges

Smaller communities' airports often face more than one significant challenge. For example:

- Harrisburg, Pennsylvania, is within a relatively short drive of several major airports, including Washington Dulles International (a hub for United also served by JetBlue, Southwest, and Virgin America), Baltimore/Washington International (Southwest's largest East Coast operation), and Philadelphia International (a hub for US Airways).
- Bakersfield, California, is relatively close to Fresno Yosemite International to the north and Los Angeles/Ontario International and Los Angeles International to the southwest.
- Lawton–Fort Sill (Oklahoma) Regional Airport divided its natural traffic with Will Rogers World Airport in Oklahoma City (88 interstate highway miles to the northeast, an airport served by Southwest) and Dallas/Fort Worth International Airport (American's hub 182 miles to the south).

Table 4.1 provides examples of smaller airports and some of the competitive challenges they faced. Each may also face additional competitive pressures from other nearby facilities as well, along with limits to their infrastructure (such as relatively short runways or obstructions).

Table 4.1. Competitive challenges at selected communities with smaller airports.

Major Competitive Challenge	Communities
Proximity to legacy network hub	Logan, UT Kalamazoo, MI Toledo, OH Rockford, IL Harrisburg, PA Colorado Springs, CO
Proximity to airport with LCC service	Huntington, WV Daytona Beach, FL Santa Rosa, CA Mobile, AL Rockford, IL Harrisburg, PA
Small, isolated communities	Butte, MT Marquette, MI Idaho Falls, ID Victoria, TX Dickinson, ND
Fragmented market	Greenville, NC Ithaca, NY Mobile, AL Lawton, OK Florence, SC Stewart (Newburgh), NY
Predominantly inbound (tourist) market	Hailey, ID Hayden, CO Kalispell, MT

Summary

- Smaller communities' airports face a range of significant challenges to both retaining and enhancing their existing air service.
- Much of the challenge stems from their proximity to competitive alternatives—service at another larger airport either from another network carrier or from an LCC—combined with relatively good highway access.
- As a result, these airports may leak a significant portion of their "natural" traffic base to those other airports.
- Although each community has its own unique circumstances, the competitive challenges they face can be summarized into a smaller number of categories. These categories include the following:
  - Proximity to a legacy network carrier's hub
  - Proximity to another airport served by an LCC
  - Geographic isolation coupled with relatively small population bases
  - Passenger market fragmentation among multiple nearby airports
  - Predominantly inbound traffic
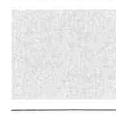
Best Practices for Air Service Development

Taking Stock of the Situation

An effective ASD program begins with an honest assessment of the airport's existing services, as well as the facility itself, to identify how the air service can best be improved—realistically. This evaluation needs to encompass not just an analysis of current and historic passenger traffic patterns and fares, but also a comparative evaluation of what services are offered at other nearby airports and similarly sized airports elsewhere. In this chapter, the techniques used to measure and analyze air service are discussed in order to provide insight into how best to define, address, and correct any deficiencies.

What are the airport's current services and how are they performing?

Before the airport's air service can be improved, the ASD team needs a complete picture of the air service currently offered and how well it meets the needs of the traveling public. This evaluation involves analyzing passenger and airline data in the airport's top origin-and-destination (O&D) markets as well as conducting a more subjective assessment of how convenient and competitive it is to fly into or out of the airport.

The first step in improving an airport's air service is developing a complete picture of the service it currently offers and how well that meets the needs of its travelers.

Destinations and Load Factors

Regardless of the size of the commercial airport, the person(s) tasked with marketing and/or new business development should conduct a periodic review of the airport's existing air services. This review should encompass not only scheduled flights by commercial airlines, but also flights by charter carriers to quantify which destinations are being served and how well. It is best to keep a running time-series comparison of the number and airport name of nonstop destinations served. Close attention should be paid to any market seasonality. For example, does an airline provide nonstop service between the airport and Orlando or some other leisure destination only during the peak winter and spring break seasons?

U.S.DOT has a large database that is used to analyze patterns of O&D travel. This database is populated by the information large airlines are required to report on a sample—10 percent—of all tickets sold. This rule applies only to airlines domiciled in the United States and not to foreign carriers. (However, these data may capture information on passengers who purchased a ticket on a foreign carrier whose code-share flight is operated by a U.S. carrier—for example, a passenger with a Lufthansa ticket flying from Chicago to Frankfort on the United code-share flight). The O&D data thus provide a statistical estimate of the number of passengers who travel from an airport and where they go. U.S.DOT releases the data on a quarterly basis, usually with a three- to four-month lag time.

The O&D data, which is market specific, can show whether there is a substantial amount of traffic in the target market despite the lack of nonstop service. This data shows the origin, destination, passengers, revenues, average fare, average yield, and itinerary distance for the target market as well as any connecting market traffic that might flow over an airline's hub. Table 5.1 shows some basic information for the top 25 destinations from Providence, Rhode Island [T.F. Green Airport (PVD)].

However, users need to note that because the data are *sampled,* they are also subject to statistical *sampling errors.* In smaller markets, because the total number of tickets sampled can be small, the sampling error can be correspondingly large. Estimates of traffic in certain smaller markets may be statistically questionable.

Another important dataset that U.S.DOT issues is the "T-100 data," which is segment specific. These data show the departure airport, arrival airport, departures, onboard passengers, available seats, RPMs, ASMs, and load factors. (See for example Table 5.2.) U.S.DOT requires that all carriers that fly international and domestic operations to/from/via the United States provide operational statistics on those services. This rule applies to both scheduled and nonscheduled (e.g., charter) flights, as well as passenger and cargo flights. U.S.DOT releases T-100 data each month, with a three- to four-month lag for domestic service.

Analysts can use these data to determine the extent to which load factors on critical market segments are relatively high or low. Load factors represent the average number of seats filled with (paying) passengers on a nonstop flight. High load factors can be interpreted either as a sign that the market is performing relatively well for the carriers, or that loads are so high that passengers' choices may be limited, especially during peak times of the day, week, or year. In that manner,

Table 5.1.   Top 25 destinations for Providence, RI, passengers.

Rank	PVD Market	Daily Each Way Passengers	Daily Each Way Revenues	Average Fare	Nonstop Service
1	BWI	731	$58,788	$80.39	Y
2	MCO	660	$75,965	$115.10	Y
3	PHL	421	$35,293	$83.87	Y
4	TPA	403	$46,146	$114.43	Y
5	FLL	267	$33,478	$125.24	Y
6	MDW	199	$23,411	$117.80	Y
7	ORD	189	$28,141	$148.98	Y
8	PHX	184	$27,081	$147.43	Y
9	LAS	169	$27,040	$160.30	Y
10	RSW	140	$17,059	$121.85	*N*
11	LAX	132	$22,034	$167.17	*N*
12	PBI	125	$14,097	$113.13	*N*
13	DCA	118	$29,864	$253.93	Y
14	DTW	115	$19,097	$165.88	Y
15	BNA	108	$14,927	$138.30	Y
16	CLE	108	$13,172	$122.50	Y
17	SAN	96	$17,835	$185.84	*N*
18	CLT	93	$18,310	$197.77	Y
19	RDU	93	$10,731	$115.99	*N*
20	JAX	87	$10,524	$121.55	*N*
21	PIT	85	$9,994	$117.91	*N*
22	ATL	74	$18,533	$252.15	Y
23	DEN	73	$12,474	$171.21	*N*
24	ORF	68	$8,311	$122.34	*N*
25	SFO	67	$12,379	$184.58	*N*

Note: Data for year ending June 30, 2008.

Table 5.2.   Example of T-100 data for travel between Providence and Chicago O'Hare.

Carrier	Onboard Passengers	Seats	ASMs (000)	RPMs (000)	Load Factor
American Airlines	69,549	84,258	71,532	59,048	83%
United Airlines	234,787	279,130	236,988	199,337	84%

Note: Data are for year ending September 2008; passengers are both inbound and outbound.

high load factors may act as an inhibitor to traffic growth in the absence of new air service, offering support for the contention that new flights in the target market will allow normal market growth in the community to be better accommodated.

The T-100 data include information for both scheduled and nonscheduled (e.g. charter flights) operations. The data are reported on an "as-flown" basis. That is, if a commercial scheduled flight from New York City (JFK) to Los Angeles (LAX) makes an unexpected stop en route in Kansas City (MCI), the data will record that the flight required two segments, JFK-MCI and MCI-LAX, and will not appear in the nonstop JFK-LAX data.

The T-100 and O&D data are available from both public and private sources. High-level data are available to the public online through the U.S.DOT's Bureau of Transportation Statistics (BTS). These traffic and operational data are also available on a subscription basis through other private U.S.DOT-authorized providers, such as Dallas-based Database Products and OAG BACK Aviation Solutions.

Route Deficiencies

Having learned where the airport's passengers go, the next step involves assessing how they get there and how routes might be improved to provide more convenient service.

Nonstop Markets

Hub-and-spoke systems emerged as the most efficient means for connecting passengers between two different locations. Passengers often do not care for connecting over hubs, but hubs do allow airlines to aggregate traffic in ways that make serving many smaller communities possible. Only a certain number of markets will support nonstop service. Point-to-point nonstop flights require substantial demand in the local market to justify such service.

An airport's route deficiencies include those markets that could potentially support but currently lack nonstop service. When route deficiencies are evaluated, it is important to realistically assess the market's potential for nonstop service to other hubs. Those hubs may provide new connecting possibilities (e.g., cities not already served on a one-stop basis) or other passenger conveniences. Additionally, a realistic assessment should be made of whether the market might generate sufficient demand for point-to-point service, perhaps to a large leisure destination such as Las Vegas or Orlando. (Other factors, such as the possibility of stimulating traffic or addressing leakage, also figure into an airline's evaluation of the viability of nonstop service on a given route. These factors are discussed in detail later in this chapter.)

The assessment should also consider international connections. Hubs that used to provide only regional or national access now provide access to international cities, often through an airline's global partners. The three major global alliances—oneworld, SkyTeam and Star—have established a wealth of connecting opportunities in global markets. Some airports may find that they lack nonstop service to major international gateways that would link them to the world at large. This lack of service also constitutes a route deficiency.

Passengers may not care for connecting over hub airports, but hubs allow airlines to aggregate traffic in ways that make serving small communities possible.

Circuitous Routes

Circuitous routings involve itineraries where passengers travel in a less-than-direct manner between their origin and destination airports. Flight schedules from smaller airports to a final destination frequently involve circuitous routings via major hub(s).

Circuitous routes add to passenger travel times. Take the example of Walla Walla, Washington, which is served only by Horizon Air to Seattle. Passengers traveling anywhere else on Horizon or another airline must "backhaul" over Seattle before proceeding to their "downline" destination (see Figure 5.1). A passenger from Walla Walla traveling on Horizon to Denver must first fly west to Seattle before turning around and flying back to the east.

If O&D passenger estimates warrant, the airport could approach an airline to propose new nonstop service to a different hub that would provide better (i.e., less circuitous) connections to the south or east. This might include service on a Delta Connection flight to Salt Lake City or a United Express carrier over Denver.

Flight Frequency, Times, and Total Travel Time

The number of daily nonstop flights between a city pair can have a direct effect on that market's relative attractiveness to the traveling public. Business travelers generally prefer to travel early in the morning and in the late afternoon to maximize time at their destination. Leisure passengers may travel at any time of day. If sufficient passenger demand exists, a typical minimum flight complement in a city pair is three flights per day—morning, noon and evening. In many leisure markets, one flight per day may be sufficient to match the market demand.
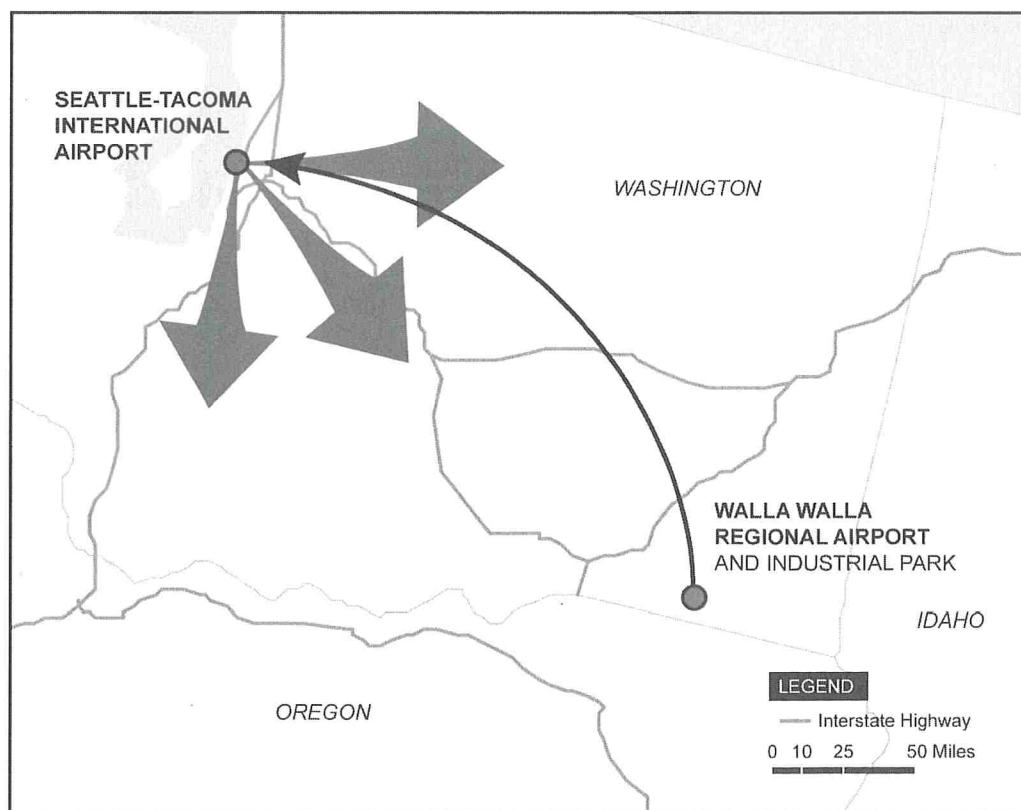
Figure 5.1. Backhauls from Walla Walla.

CASE STUDY
Adding service to another hub to reduce circuity

Lawton, Oklahoma, is the third largest city in the state. Its airport's catchment area includes a population of nearly 350,000 and two large military bases—Fort Sill and Altus Air Force Base. With service only from American Eagle Airlines on Saab 340s, the Lawton Metropolitan Area Airport Authority estimated that it lost 72 percent of its passenger traffic to Oklahoma City (88 miles to the northeast) and Dallas/Fort Worth (184 miles south). Fares to eastern destinations were high in comparison to other nearby airports.

In conjunction with a local public-private partnership, the airport authority won a U.S.DOT SCASDP grant in 2005 to support new nonstop service to Atlanta provided by Delta Air Lines. The new service would particularly help move military personnel to eastern U.S. destinations.

Lawton began its efforts in 2001 when it identified Atlanta in a passenger demand survey as its top desired new hub. The airport authority hired consultants to complete two additional analyses to quantify its passenger leakage and top markets from the catchment area. Both studies found Atlanta to be the number one destination for the catchment area.

The airport authority believed that adding Delta's regional jet service to Atlanta would greatly improve access to the air transportation system by providing another nonstop destination and more domestic and international connections. Delta would also provide competition in the market, giving the community more choices and most likely lower overall airfares.

The 2005 grant provided $525,000 of revenue guaranteed to Delta or any airline that would serve the market for one year with a route to the east. Delta finally launched its new service in March 2008, but only after Lawton increased the size of its revenue guarantee to $1 million.

The City and its Chamber of Commerce also launched a 90-day promotional campaign to support both Delta and American. That effort focused on the outbound market and was aimed at reducing leakage to Oklahoma City and Dallas/Fort Worth. The airport reported positive results.

In February 2009, however, Delta announced that it was discontinuing the service as part of its 10 percent reduction in domestic capacity. Another key factor was that American had won government contracts for carrying military personnel. Lawton's airport manager noted that 70 to 80 percent of the airport's traffic was military. Delta dropped service in April 2009.

Although network airlines previously scheduled the flight connections at their hubs to minimize passenger connecting times, hub connect times of one to two hours are now common. While this schedule lengthens total elapsed travel time, it provides a more realistic measure of traveling across the country or around the globe, and allows some leeway for operational irregularities (flight delays, cancellations, or re-routings.) To create some leeway in their operations, airlines have also increased their scheduled flight block times to allow for extra ground and/or flight time related to congestion, weather, or other sources of delay.

In a report on flight delays, the U.S.DOT Office of Inspector General reported that, between 1988 and 1999, the 10 major air carriers reporting to BTS increased their scheduled flight times on more than 80 percent of their domestic routes (1,660 of 2,036 routes). From 1988 through 1999, those schedule changes added nearly 130 million minutes of travel time for air passengers (9).

Excessive travel times can arise from infrequent nonstop service between a smaller airport and a hub, coupled with long layover times at that hub. This is especially true for very small airports that rely on nonstop service to one hub. An airport's geographic relation to its closest hub airport can also lead to backhaul flights, as illustrated in the preceding Walla Walla example. Multi-stop itineraries also create excessive travel times.

It is important to periodically review the flight connections that exist between an airport and its top O&D markets to ensure that connection times are reasonable via intermediate connecting points.

Hub Congestion

A passenger's experience at the hubs to which an airport connects is another important aspect of air service and influences the relative appeal of flying out of an airport. Major network airline hubs have become increasingly congested over time with large banks of flights.

At certain airports—notably Chicago O'Hare, Newark Liberty, and New York JFK—carrier operations became so congested that U.S.DOT administratively restricted the number of flights. U.S.DOT decided that the problems of airline over-scheduling and delay were so great at those airports that the only way to fix the problems was to impose an absolute limit on the number of operations that airlines could make in any given hour. (U.S.DOT lifted the restriction on the number of hourly flights at Chicago O'Hare International Airport in September 2008.)

When hubs get particularly congested or if weather conditions deteriorate, service to small communities is often affected. Carriers may try to operate their larger aircraft and sacrifice the schedules of regional affiliates. Moreover, air traffic problems associated with intermixing smaller aircraft with larger aircraft (e.g., wake vortex restrictions and departure patterns) can further complicate the departure process of all aircraft. The resulting effect of a hub's arrival and departure delays causes arrival and departure delays at ensuing small community airports.

Figure 5.2 illustrates the hubs served from Burlington (Vermont) International Airport (BTV). A majority of those hubs are congested, and on-time arrivals and departures have suffered as a result. When flights do not depart those hubs on time, on-time arrivals and departures at Burlington also suffer.

Air Carrier Issues

Passengers come to associate the performance and convenience of the air carriers at an airport with the desirability of the airport itself. Examining issues such as air carrier pricing, capacity, aircraft type, and reliability helps to identify and prioritize potential improvements in air service.

First, however, the ASD team should consider the airlines servicing its airport within the context of the aviation industry, as discussed in Chapter 3. What are the dynamics of airlines serving the airport as well as other nearby airports? Are the airlines facing financial difficulty? How focused are they on costs? Are airline mergers being discussed? How could that potential consolidation affect the airport being evaluated?

Pricing

The prices that airlines charge for services they provide at an airport have a substantial impact on passenger demand, especially for leisure travelers. Business travelers are more likely to accept the fares as listed, particularly if flying to an alternative airport would add significant ground travel time. That does not mean, however, that they are not sensitive to prices—especially if there are other issues associated with the carrier's service (e.g., difficult connections over congested hubs). If prices at an airport are significantly higher than those for comparable service at a competing airport, it may experience a notable loss of passenger traffic. Figure 5.3 illustrates the significantly different airfares available from three competing airports for service to Denver in October 2008.

Available Seating Capacity

All U.S. network carriers own or have a partnership with regional carriers to provide connecting service to their hubs from smaller cities. (The network carriers also use their regional partners

BTV: 77%
On Time

ORD: 77%
On Time

DTW: 87%
On Time

CLE: 81%
On Time

JFK: 67%
EWR: 67%
On Time

PHL: 80%
On Time

IAD: 76%
On Time

ATL: 76%
On Time
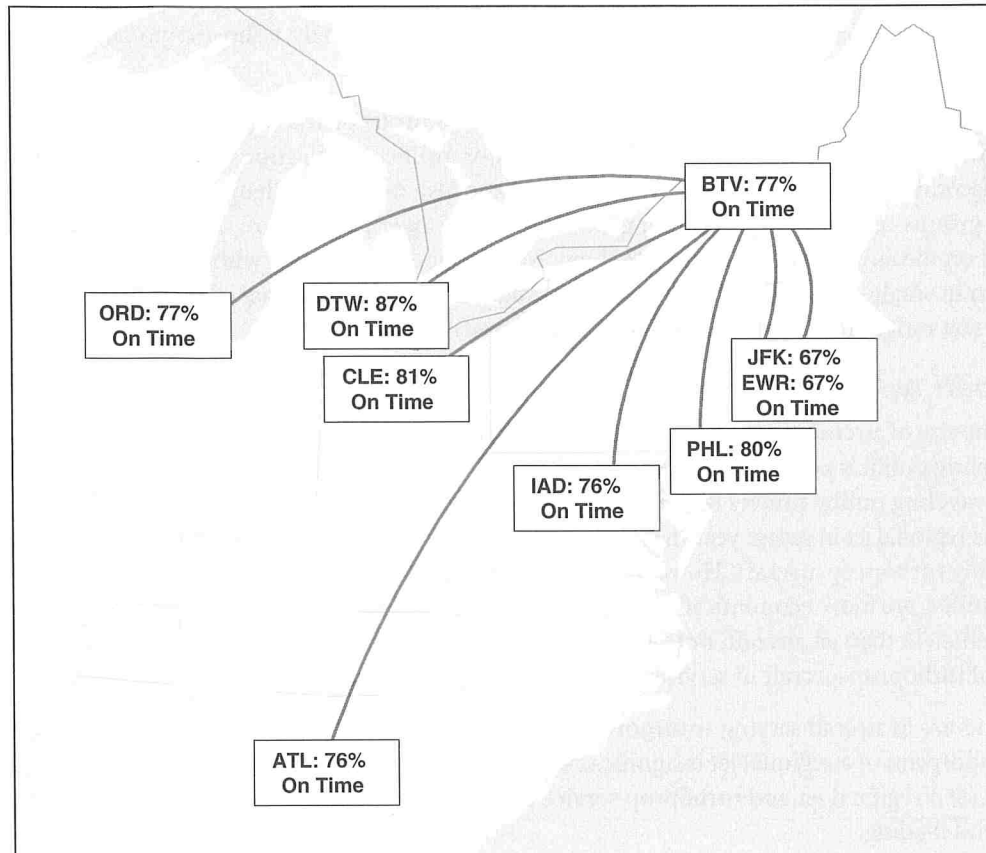
Source: BTS on-time departure data, October 2008.

Figure 5.2.   Many of Burlington's connecting hubs suffer from congestion and delay.

Sioux City
$629 (NW)
466 mi

Nonstop Routes
Connection

Des Moines
$224 (UA)
589 mi

Omaha
$49 (F9)
472 mi
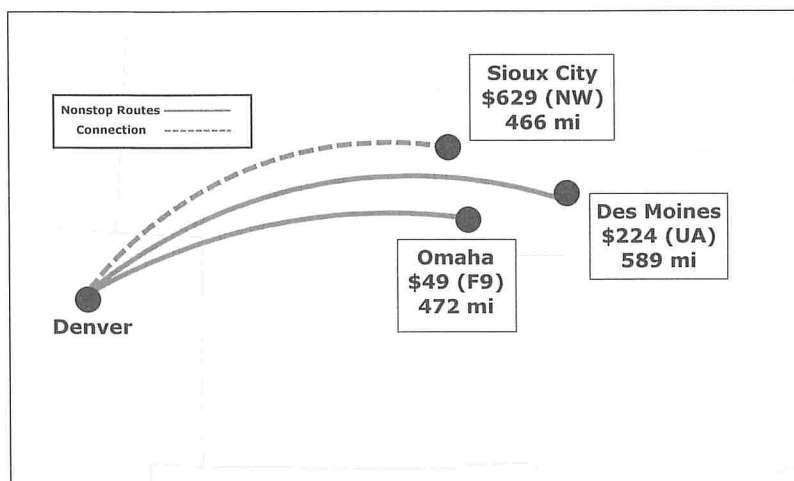
Denver

NW = Northwest Airlines, UA = United Air Lines, F9 = Frontier Airlines
Source: Travelocity, for departure on October 15, 2008.

Figure 5.3.   Lowest average one-way airfares between Denver and Des Moines, Omaha, and Sioux City.

to "fill frequencies" between larger cities where mainline jets also fly.) Those regional carriers use turboprop aircraft or regional jets.

Compared to smaller mainline aircraft, these turboprops or RJs have fewer seats, which are carefully priced and managed for sale by the major airline. Such actions reduce the availability of discount fares in the market. Smaller aircraft can also make it challenging for larger community groups (e.g., school or church groups) to travel together, as there simply are not enough seats on the aircraft to accommodate them. Most regional jet aircraft with less than 70 seats are flown in single-class (i.e., economy-only) configuration. Some regional jet aircraft in the 70- to 100-seat range also have a premium (business-class) cabin.

Aircraft Types

The size of aircraft that carriers use and the mix of aircraft serving the facility can influence the traveling public's perception of the quality of service offered at an airport. Generally speaking, the traveling public prefers larger aircraft, and jets are preferred over turboprops. The advent of the regional jet in recent years has brought jet service to smaller communities previously served by only turboprop aircraft. However, commercial flights over shorter distances (i.e., less than 500 miles) are more economically well served using turboprop aircraft, which tend to be far more fuel efficient than jet aircraft. But, as noted in Chapter 3, except in the smallest markets, the number of turboprop aircraft in service in the United States has declined significantly over time.

The size of aircraft serving an airport can also affect the use of or need for jet bridges and gates. The footprint of a regional jet is significantly smaller than that of a narrowbody or widebody jet. Increased regional jet and turboprop service also impacts the need/desire for jet bridges versus ground loading.

Reliability

Airline and aircraft reliability can weigh heavily in a passenger's perception of a travel experience. If an airport experiences chronic delays in arriving and/or departing flights, the issue must be addressed with the operating carrier. Lack of attention to this operational reliability can lead passengers to avoid flying the perpetually tardy carrier; they may choose another carrier at another airport. In the end, both the carrier and the airport suffer.

Burlington (Vermont) International Airport acknowledges that it benefited from JetBlue's service to JFK, yet it also was forced to recognize that for some time during early 2007, JetBlue's operations at JFK suffered significantly because of congestion and delays. Passengers appreciated the low-fare service, but did not care for connecting at JetBlue's crowded JFK facility. Flight delays there meant that the last flight back to BTV often arrived hours after it was due.

Figure 5.4 summarizes the issues that were most commonly identified by surveyed airports as their major air service problems.

Where do key community groups want to fly?

After understanding the current situation at the airport, the ASD team's next step is to examine demand by determining who the major travel groups in the community are and where they travel. Key community stakeholders are those corporations, organizations, and prominent individuals who have a vested interest in the quality and quantity of commercial air service at the airport. They are the largest companies in the area that funnel their business air traffic through the facility being assessed. They include the Chamber of Commerce and economic and tourism development agencies. Local travel agencies can also provide insight into the patterns of the local traveling public.

Consider:
- *What aircraft mix serves the market?*
- *How has this mix changed over the past few years?*
- *Has the use of smaller aircraft led to more nonstop destinations served at the airport?*

Consider:
- *How often do your airline operators fly on-time?*
- *Why are flights late in departing your airport?*

The key community stakeholders are those corporations, organizations, and prominent individuals who have a vested interest in the quality and quantity of commercial service at the airport.

Solicit input and feedback from them.
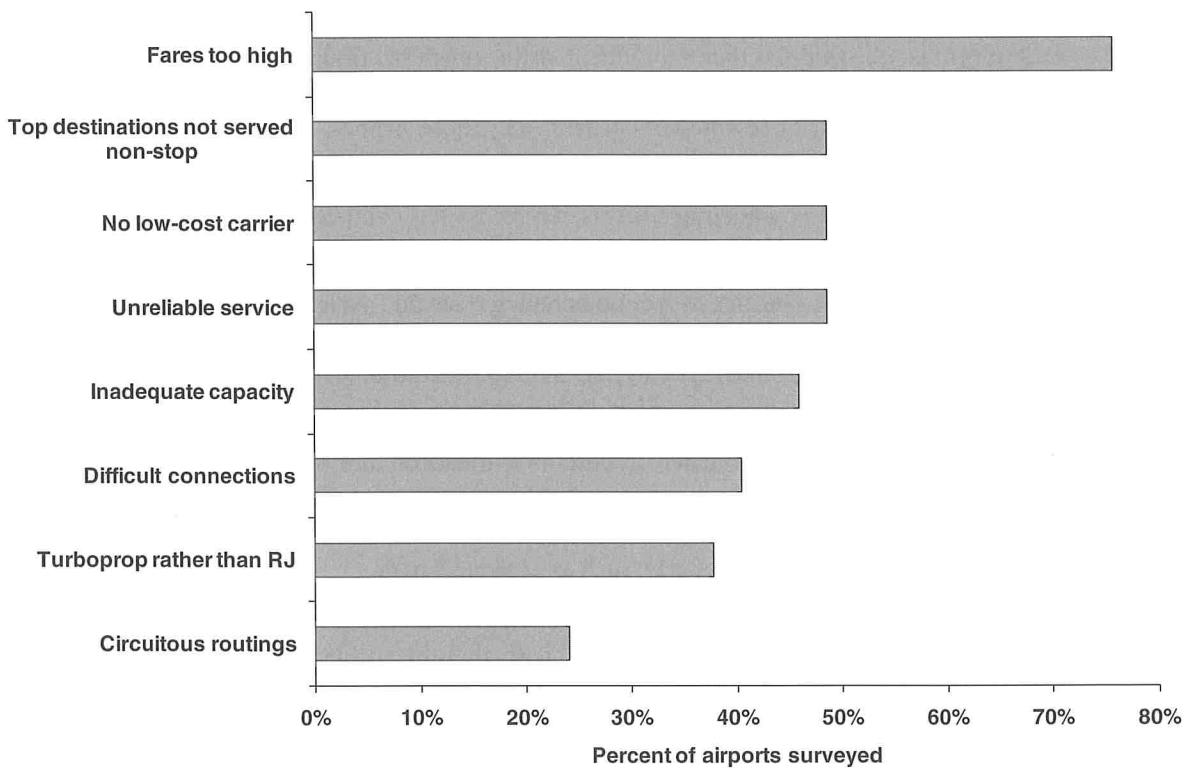
Figure 5.4.   Major air service problems at small community airports.

How can this information be most easily gathered? The ASD team can solicit the input and feedback of the core stakeholder constituency, involve them in the process, hold meetings with them to discover what their key outbound destinations are, and solicit their opinions regarding their perceived air service deficiencies. Identifying the core stakeholders of the community, requesting their input and acknowledging them as essential participants in achieving the ASD goals and objectives will connect them to the process, and build loyalty in their support of the airport.

How are a facility and its costs assessed?

The air service available at an airport is not the only factor on which airlines and passengers form their opinions. The airport's physical characteristics—on both the airside and the groundside—can also be critical determinants of whether carriers serve there, and whether passengers come. Construction projects, travel time, traffic congestion, public transport ease and availability, and general perception of the passenger experience all influence those decisions.

Airport Fees

Landing fees, ground rental rates, and other handling fees reflect the cost of operating the overall facility. These rates lie within the airport's span of control and can be used as a means of negotiation with airport users, both public and private. It is important to establish a landing fee structure that is fair, equitable, and transparent to the user community. When establishing the fee structure, the mix of operations between scheduled and nonscheduled flights (both passenger and cargo), as well private and military aircraft that may utilize the airport should be considered. Some carriers have traditionally been especially sensitive to these costs, and all carriers are

Consider:
* *Should airlines be required to provide their own ground handling?*
* *Can this function be in-sourced and provided at a cheaper cost to the airlines?*

An airport's physical characteristics—on both the airside and groundside—can be critical determinants of whether carriers serve there, and whether passengers will come.

concerned about them now in light of the overall financial condition of the industry. It is important to provide the facilities that the resident airline operators desire and are willing to pay for. Expensive work projects at the airport that are not supported by the resident airlines lead to increased fees and may be resented or challenged by those airlines.

An airport's fees must be competitive with peer airports in the region. If an airport is able to provide lower fees than competing airports, it may create a competitive advantage in attracting new air service to the airport.

Carriers may also be sensitive to ground handling costs. In smaller markets with limited flight frequency, ground handling costs can seem relatively high on a unit basis. Sometimes airlines insist on providing their own ground handling, and if this is the case, then it is important to respect their wishes. However, this is a cost with which the airport can assist a potential new airline.

Non-aeronautical revenue can have a substantial impact on the bottom line of an airport operating budget and therefore on the rates and charges to airlines. This revenue can come from concessionary/vending fees, garage/lot parking, rental car fees, and revenues from other businesses located on the airport property, such as a business park.

Airports should carefully consider what steps can be taken to reduce airlines' cost of doing business there.

Prior to visiting an airline's headquarters to pitch a new service from the airport, the ASD team should have a clear understanding of the real costs that the airline will incur in providing that service. The cost of doing business in the airline industry has increased substantially in recent years. These business costs represent real costs that the operating airline cannot avoid and must incur. The ASD team should carefully consider what steps might be taken to reduce the airline's cost of doing business at its airport by identifying the cost factors that are within its control versus those that are controlled by the airline.

Infrastructure Constraints

Airport constraints include the physical and geographic obstructions that may impact operations at the airport. An airport located in a mountain valley must contend with the mountain obstructions for flight take-off and landing procedures. Airports with relatively short runways will not be able to handle operations other than turboprops. Noise abatement initiatives by local authorities can also influence airport operations. Older airports located in dense population areas are often constrained by the urban sprawl surrounding them and are limited in their physical growth potential.

Runways

The number and lengths of the runways have an obvious and major impact on the volume and nature of aircraft operations at the airport. Larger aircraft require larger runways. Runway alignment relative to prevailing wind patterns also influences operations. Dual parallel runways are a unique asset that can substantially increase flight capacity and reduce delays, but this luxury is usually not found at smaller airports.

Consider:
- *Are there any obstructions that require special pilot procedures? Noise abatement procedures? Power-back? Parallel runways? Parallel take-offs/landings?*
- *Does the community support airport expansion?*

Smaller communities may often face the situation of having relatively short runways. FAA and aircraft manufacturers provide considerable technical guidance on minimum runway length requirements for different types of aircraft. Obviously, it is critical that airports understand the effective operating lengths of their runways and what that may mean for an ASD effort.

Infrastructure

The available infrastructure at the airport will dictate the level of flight and passenger activity that the facility can accommodate. The number of gates, the amount of tarmac space, the square footage of the terminal building, and a number of other factors influence passenger throughput.

CASE STUDY
Physical limits constrain operations

Tweed New Haven Regional Airport (HVN) serves a market area of roughly one million people in southern Connecticut. However, only US Airways—using turboprop aircraft flying to Philadelphia—provided commercial service at the airport. The airport authority estimated that with that one carrier, it captured only 3 percent of its potential market. Most of the population in the area drove to Bradley International (Hartford County, CT), 56 miles away.

The airport authority recognized that Tweed New Haven's relatively short 5,600-foot runway and other physical obstructions would constrain the ability of

airlines to operate jets at the airport profitably. Runway limits and other obstructions meant that certain jets could not carry a full passenger load. Many airlines targeted by the airport authority indicated that the airport's infrastructure must be enhanced prior to serious discussions.

The airport has initiated work on its updated master plan that calls for significant upgrades to the runway, safety areas, terminal, and roadways, all of which would allow jet operations to hubs such as Atlanta and Chicago.

When embarking on airport expansion projects, it is important to optimize usage of available infrastructure.

Gates

Gate usage influences the efficiency of the facility. LCCs such as Southwest Airlines try to use gates 8 to 10 times each day where possible. At smaller airports, where there are fewer flights, gates might be used by only 2 or 4 flights per day. Gate usage is another area in which airline operators can be steered toward greater cost savings. When feasible, airlines can sometimes share gate space and avoid incurring the full cost of using a dedicated gate. Some airports do not assign specific gates to specific airlines and instead employ a common usage plan among their airline operators.

Ticket Counter and Office Space

Ticket counter and back office space is another area in which the airport can assist its airline operators in achieving cost savings. Airlines require a certain number of check-in positions for processing their passengers. If counter space is limited, airlines will sometimes share the space to increase efficiencies and decrease costs. It is important to learn whether airlines require exclusive use of their counter and office space or are willing to share to reduce costs.

Security (Passenger, Baggage, and Cargo)

Passenger security procedures have received increased visibility, especially following the events of September 11, 2001. The Transportation Security Administration (TSA) mandates certain space requirements to accommodate their passenger- and baggage-screening process. Airports with older terminal facilities are often constrained. Newer facilities can better plan for the increased security space.

How does the airport compare to its peers?

To obtain a realistic perspective on the service at the airport being evaluated, its demographics, traffic, and operations are best compared with similar airports. Points of comparison may be nearby airports with which the facility competes for passenger traffic, or other airports or com-

Small airports can be prone to inflating their true market potential. Consider:
- *What are competitive strengths/weaknesses of the airport relative to competing airports in the region?*
- *How good is highway access to/from the airport?*
- *How good is highway access to/from competing airports in the area?*

CASE STUDY
Hayden, Colorado's operational advantage

Yampa Valley Regional Airport (HDN), located in Hayden, Colorado, serves the aviation needs of the mountain communities of north central Colorado. Yampa Valley Regional is close to the world-famous Steamboat Springs ski resort, just 25 miles to the east. The airport is situated in the wide open Yampa River valley and, as such, enjoys a competitive advantage relative to other airports in the Colorado mountain region. The airport lies at an elevation of 6,602 feet, with a runway 10,000 feet long and 150 feet wide. It has no natural obstructions at either end of the single runway, thereby allowing take-offs and landings in both directions, depending on wind conditions. Airports in other Colorado mountain communities may be hampered by mountain terrain that allows only one-way in and out operations. Flights destined to other mountain airports may divert to Yampa Valley Regional when conditions deteriorate at those facilities, providing a strategic advantage for this airport.

An airport's catchment area is defined by its proximity to other airports, the quality of highway access, flight frequencies, fares, and nonstop service.

Consider:
- *How geographically isolated is the subject airport's catchment area?*
- *Does a nearby airport enjoy LCC service that could siphon off some of the subject airport's natural catchment traffic?*

munities of similar size. Such a comparison will allow the ASD team to assess whether its area is adequately served and whether it might have a reasonably realistic expectation for additional service. This comparison is sometimes referred to as a "SWOT analysis"—a review of the strengths, weaknesses, opportunities, and threats of the facility.

One pitfall of operating a smaller airport is that it becomes easy to aggrandize the market's potential and perhaps view it as something greater than it actually is. Therefore, sober inventory and analysis of the airport is important. The ASD team should emphasize its competitive strengths relative to other airports in the region, but also acknowledge its weaknesses relative to the competition and take steps to mitigate those shortcomings.

Defining the Catchment Area

The airport's catchment area is defined as the geographic reach of the airport's service area. Practically put, the airport's catchment area encompasses the land area within which people choose the airport as their preferred airport to begin and/or end their air travels. The primary component of this equation is accessibility, i.e., how fast and easy is it for the traveling public to get to and from the airport relative to their other available options. Additional factors such as traffic, service levels (nonstop vs. connect), preferred airlines, parking, etc., also figure into the equation when a passenger chooses an airport for their travel needs.

An airport's catchment area overlaps with those of nearby airports, particularly in urban areas that are served with multiple airports. Some airports are more focused on domestic services, while others may include international operations. Issues that affect the boundaries of a catchment area include the proximity to other airports, road network quality, drive times, traffic congestion, airfare levels, flight frequency, and breadth of nonstop service. Each of those factors can influence the travel choices of residents within the catchment area, as well as the choices of those business and leisure travelers who visit the catchment area from other cities. Figure 5.5 illustrates 60- and 90-minute drive times and the airport catchment areas at Cleveland Hopkins International and Akron-Canton airports. Those airports also compete to some degree with Pittsburgh International and Port Columbus International.

An airport's catchment area can change over time as the services offered at both that airport and its competitors change, or as the ease of driving between locations changes (e.g., with the completion of a new highway or bridge). For example, Akron-Canton's catchment area grew substantially following the introduction of service by AirTran, whose low-fare pricing lured people
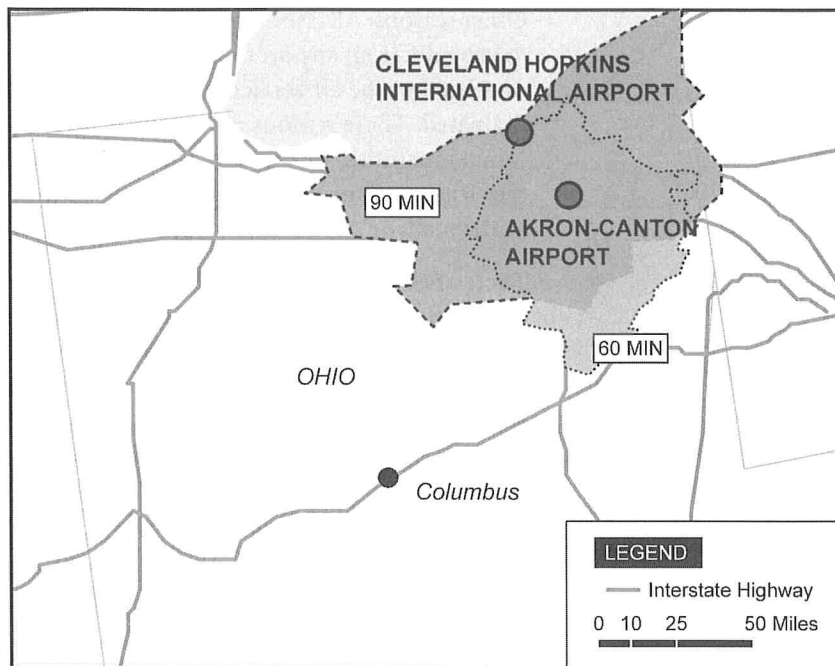
Figure 5.5. Overlapping catchment areas for Cleveland Hopkins International and Akron-Canton airports.

from outside of Akron-Canton's traditional catchment area who might have previously used Cleveland Hopkins International instead. Understanding the nature of the airport market being evaluated (i.e., the mix of inbound versus outbound traffic) also helps clarify the airport's catchment area relative to alternative airports in the general region.

Assessing the Strength of a Catchment Area

The strength of an airport's catchment area is reflected in the extent to which it "captures" all of its local traffic. Conversely, the airport's catchment area can also be assessed by estimating its "passenger leakage," the extent to which it loses passenger traffic to nearby airports.

Passenger Leakage

Leakage is defined as the volume of passengers from the "natural" catchment area that are lost to other airports. It is the volume of passenger traffic that has opted to fly to or from a competing airport. Identifying sources of and reasons for leakage are crucial if an airport hopes to win back that traffic to use its facility. Passengers may decide to use another airport for a number of reasons:

- Nonstop versus connecting service: The other airport may have service from an airline that offers nonstop service to the passenger's destination. The service from the airport being evaluated would require a connection.
- Flight frequency: Flights at another airport are at far more convenient times or, more simply, flights are available, which allows business travelers greater flexibility.
- Airfare differences: Fares at another airport may simply be more affordable, for any number of competitive reasons (e.g., the presence of an LCC or greater competition among network carriers).
- Preferred airline: The other airport may be served by an airline for which the traveler has some preference. This preference may be associated with the traveler's frequent flyer program, or it may be that a traveler is simply boycotting an airline for personal reasons.

An airport's catchment area changes over time as services there and at nearby competing airports change. Changes in highways can also affect the catchment area.

Passenger leakage: the volume of passengers from an airport's "natural" catchment area lost to competing airports.

Detailed example of one airport's method to gather data on its catchment area

In Daytona Beach, Florida, the airport authority wanted to develop better information about the origination of its traffic base. Similar to many other airports, Daytona Beach International Airport (DAB) has surveyed the license plates of its parking lots. However, the airport decided to try a different approach for obtaining the same type of information.

The airport partnered with Embry-Riddle Aeronautical University to develop a zip code kiosk. The kiosk, placed in the hall before the TSA security checkpoint, asks passengers to enter their five-digit zip code. Data are then summarized by Embry-Riddle students for airport staff to use. The kiosk is clearly marked as being run by the Daytona Beach International Airport as part of its efforts to expand air service. The airport estimates that it captures zip code information for 25 percent of its passengers at the TSA checkpoint.

Combined with mapping software, this tool has helped the airport understand from where in Florida it is drawing passengers. The data also help the airport authority better manage expectations with regard to a realistic catchment area to target.

Data from the kiosk report also help the airport better understand its top inbound markets

ZIP CODE
SURVEY
Help DBIA Attract
More Air Service
Please enter one
home zip code
per traveler
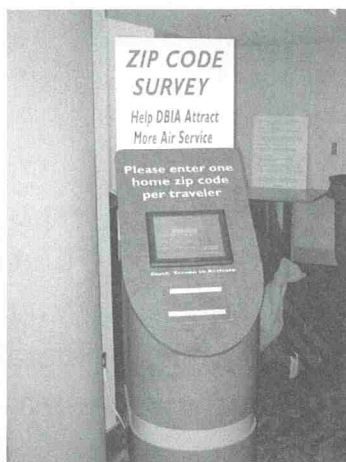
to the Daytona Beach area. With that information, the airport is better positioned to leverage the participation of hotels and local tourism agencies in developing financial and marketing-based incentive programs.

- Other reasons: All else being equal, passengers may prefer to use a different airport for any number of other reasons unrelated to the air service available at the airport being evaluated. These reasons may include parking rates, terminal amenities, or outside factors completely beyond the airport's control (e.g., highway construction, a nearby outlet mall, or Aunt Millie's nearby residence).

There are a number of ways to estimate the total amount of leakage that occurs at individual airports. A "license plate survey" is a commonly recognized way to check an airport's catchment area; it involves visiting the airport's parking lots and noting the number of license plates from different areas. Passenger leakage can be estimated by performing a license plate survey in the parking lots of nearby airports. If the state includes some county indicator on the license plates, this survey can be relatively straightforward. If not, however, license plate numbers would have to be recorded, and cooperation from the state department of motor vehicles would be needed to cross-reference the county of residence from its own files. This can be very costly.

ASD teams also can get data on flight reservations or bookings by analyzing data from the Marketing Information Data Transfer (MIDT) database. These data are generated by a computer reservation system (sometimes referred to as a CRS or Global Distribution System) and include such information as origin, destination, airline, connecting airports (if any), passengers, and fare. Using those data will thus show which airports passengers from particular areas (e.g., zip codes) booked flights on. It also can provide a much more detailed overview of passenger fares by fare category than can the U.S.DOT databases, which in turn can help measure the business and leisure travel components of the target market.

However, the MIDT data cover only flight reservations; passengers may not actually have made the trips. A further limitation on the MIDT data is that it does not include bookings made directly with airline web sites, which now generate a significant percentage (variously described as 30 to 50 percent, depending on the source and the time period) of bookings for domestic U.S. travel.

Reverse Leakage

Reverse leakage is defined as the volume of passenger traffic that uses an airport even though they reside or work in the natural catchment area of another airport. The same reasons that may cause a passenger to leak from the subject airport to a competing airport can also induce a passenger to use the subject airport. While reverse leakage benefits the subject airport, the ASD team should be mindful that the airports leaking passengers to its airport will likely work to decrease that loss of passengers.

Benchmarking

One of the most effective ways to gauge an airport's relative strengths and deficiencies in air service development is to benchmark its catchment area demographics and air service with comparable peer airports and their respective service areas. Benchmarking is a widely accepted business practice used to analyze progress against objectives and to compare the productivity and performance of one organization against others. Airports worldwide have adopted financial and quality of service benchmarking as a management tool to enhance efficiency, improve service, and drive down costs. Depending on a facility's number of staff, and their skills and experience, this type of project may be best conducted by an ASD consultant, who can create a quality sample size from his/her airport client and contact lists.

Airports Council International (ACI) has issued some reports on benchmarking that may be useful in informing an ASD team's approach and effort (*10*). ACI listed several categories of airport performance that can be benchmarked:

- Traffic activity [e.g., total passengers (originating and connecting), total operations]
- Physical facilities (e.g., land area, runways, taxiways, apron; terminals, concourses, gates, parking spaces)
- Aeronautical charges—airfield (e.g., landing and take-off fees, gates fees, environmental fees)
- Airfield, terminal, landside processing efficiency (e.g., runways, taxiway, aircraft processing efficiency; terminal passenger flows and processing efficiency)
- Aeronautical-related charges—terminal (e.g., ticket counter space, loading bridges, baggage processing/handling, passenger lounges)
- Quality of community airline service (e.g., number of airlines, routes, and frequencies, aircraft types and fleet mix, competition and airfares)

ACI also lists several other performance variables that may be useful to examine as well.

Part of the challenge of an effective benchmarking exercise is determining which airports should be selected as peers. In many ways, that selection may depend on the particular interest of the ASD team. At a minimum, the ASD team should understand how its airline service metrics rate against other airports in its immediate vicinity. Should a more in-depth benchmarking be needed, the ASD team may need to engage outside help either to analyze its own metrics or to get data on and analyze its airport's performance against other facilities.

Summary

- Before an airport's air service can be improved, the ASD team needs a complete picture of the air service currently being provided and how well it is meeting the needs of the traveling public. Obtaining this complete picture involves assessing destinations, load factors, and how convenient and affordable flights are.
- After understanding the current situation at the airport, the ASD team's next step is to examine demand—who the major travel groups are in the community and where they travel.
- Assessing the facility is an important step. The airport's physical plant characteristics—on both the airside and the groundside—can also be critical determinants of whether carriers serve there, and whether passengers come.
- To obtain a realistic perspective on the service at the airport being evaluated, its demographics, traffic, and operations are best compared with similar airports.

Identifying Available Resources to Enhance Air Service

Before establishing goals and selecting techniques, ASD teams must have a clear understanding of the resources available—both human and financial—for advancing an ASD program. This chapter discusses the range of resources that may be available and the merits and potential drawbacks of each.

For a community to undertake a proper ASD program and for that program to have a reasonable chance of success, it must be appropriately supported. Successful ASD needs both financial and human resources.

Two general areas of financing are available to meet an airport's ASD funding needs: revenues generated by the airport itself and revenues derived from other sources, such as private corporations, tourism organizations, and government at various levels. The overall commitment of the (non-airport) local community to air service needs is reflected in the resources that it is willing to dedicate to ASD.

The other critical resource that airports must have for an effective ASD effort is people with the expertise and commitment to help. Most small community airports have capable staff already working at the airport who can fill important needs. But to be successful, ASD efforts usually must rely on a task force or team approach that includes other local professionals and outside consultants. The skills and expertise that consultants can bring to ASD issues can be complemented by local professionals who bring the background and insight into the community's strengths.

What sources of airport revenues may be available to fund ASD?

The vast majority of airports surveyed did not have a separate budget for ASD activities.

The vast majority—more than 75 percent—of the airports surveyed did not have a separate budget for ASD activities. Most reported that their ASD efforts were part of the airports' marketing budget. Generally, marketing budgets are a subitem of an airports' operations budget.

Airports have a number of different sources of potential revenue that could be used, at least in part, to improve their air service offerings. These sources include funds that would come from in-terminal revenue sources—such as passengers; airlines; concessionaires; advertisers; and airline, airport, concessionaire, and government workers—as well as non-terminal sources—such as air freight companies, maintenance organizations, fixed-base operators, aircraft manufacturers, and land rentals.

Airport Budgetary Sources

Airports that accept any federal monies are restricted by law, regulation, and various agreements on how they can use revenues generated by airport operations. The Airport and Airway

Improvement Act of 1982, as amended [Title 49 USC Section 47101(b)], requires all airport owners and operators receiving federal assistance to use revenues generated by the airport for the capital or operating costs of the airport, the local airport system, or other facilities owned or operated by the airport sponsor that directly relate to the air transportation of passengers or property. Any other use of airport revenue is considered a revenue diversion.

The law also requires airport operators to charge fees for use of the airport "that will make the airport as self-sustaining as possible under the circumstances existing at the airport. . . ." The FAA has generally interpreted this provision of the law to require airport sponsors to charge fair market value rents for non-aeronautical uses of property. For aeronautical uses, the FAA requires airport operators to recover the airport's cost of providing aeronautical services and facilities to users. Aeronautical use includes any activity that involves, makes possible, is required for the safety of, or is otherwise directly related to the operation of aircraft.

The FAA is responsible for monitoring airport sponsors' compliance with airport revenue use requirements. The FAA's "Policy and Procedures Concerning the Use of Airport Revenue" describes the prohibited and permitted uses of airport revenue and outlines FAA's enforcement policies and procedures.

Table 6.1 highlights some potential sources of revenue to support an ASD program.

Passenger Facility Charges

In place at nearly all domestic airports receiving airline service, PFCs have become one of the most significant sources of airport revenues, especially at many large- and medium-hub airports. At a maximum rate of $4.50 per enplaned passenger, even at smaller airports the total can grow very quickly. This funding source is most often used for so-called "big ticket" capital expenses, such as terminal or runway expansion projects.

Other Financial Resources

Other sources of revenue that are not derived directly from an airport's operations may be available to support an ASD program. These include governments at various levels as well as local stakeholders, such as local resorts, economic development agencies or councils, and tourism organizations. Perhaps the most important sources of outside (non-airport) funding are private corporations and related associations.

The Private Sector

The most important contributions for ASD efforts—whether financial or nonfinancial—come from local businesses. The greater the involvement of private corporations, the greater is the likelihood of success in retaining existing or attracting new service.

Corporations may be able to assist with funding ASD efforts. If the business travel needs of their employees are not being met, it can be in the best interest of local businesses to support improved air service. Corporations also can assist local ASD efforts by participating in task forces or providing information on the travel demands of their employees. Corporations often have the best knowledge regarding inbound and outbound business traffic in terms of numbers, destinations, average fares, seasonality of travel, and travel budgets. This information can be extremely valuable in helping an airline to understand a market's characteristics. The information can come from corporate travel departments, trade associations, and chambers of commerce.

In particular, local businesses that are largely dependent on travel and tourism can be instrumental in financially supporting ASD efforts. This can include resorts, hotels, convention/visitors bureaus, and area attractions. They understand as well as anyone that improving air

The greater the involvement of private corporations, the greater is the likelihood of success in retaining existing or attracting new service.

Table 6.1. Potential sources of revenue.

Category/Item	Comment
Airside fees Landing fees	One of the principal sources of revenue for an airport.
Terminal rentals (a) Ticket counters (b) Gate holdrooms (c) Jet bridges (d) Baggage claim areas (e) Offices (f) Crew rooms	These are airline expense items that, together or individually, can easily be quantified and subsequently waived for a period of time as an incentive for an airline to begin new or additional services at an airport.
Terminal concessions (a) Restaurants: Whether fast food/take-out, table service, or sports bar, restaurants can generate a substantial amount of revenue for an airport. (b) Specialized services: These facilities cater to a relatively narrow group of travelers with specific business or personal needs. They include airline clubs, business centers, cell phone/Wi-Fi providers, post offices, medical services, and auto services. (c) Advertising: Various organizations see great value in advertising to a captive audience of airport passengers that generally have highly sought-after demographic characteristics. Advertising includes signs and video displays throughout the terminal. (d) Rental car fees: Revenues from this source can be significant because rental facilities tend to be land intensive.	Many airports have upgraded their offerings to make the time that passengers spend in an airport more pleasant. Stores, restaurants, and services that passengers are acquainted with in convenient locations throughout the terminal can stimulate greater passenger use and increased airport revenues. Terminal concessions can also be a competitive advantage in areas where passengers have choices among different airports and a strong selling point when discussing possible new service with the airlines.
Non-terminal concessions (a) Passenger parking: An airport's parking facilities can generate a great amount of revenue if passengers perceive them to be easy to use, convenient and efficient. (b) Taxi, limousine, and hotel shuttle bus: The revenue derived from these sources may depend on the level of economic activity in the area immediately surrounding the airport. Fees include pick-up fees and waiting area rents.	A wide array of other uses of airport property that are related to airline passenger travel can contribute meaningful amounts to airport revenues, especially the more land intensive among them.
Other non-terminal concessions (a) Air freight facilities, usually including substantial ramp and loading dock space, for both passenger and all-cargo airlines (b) Maintenance facilities, including substantial ramp space, for both flight and ground equipment (c) Fuel depots that are most often overseen by either airlines (individually or in a group) or oil companies (d) Aircraft-manufacturing facilities require extensive hangar and ramp space as well as the use of the airport's runways (e) Fixed-base operators with hangars and ramp space to cater to the needs of itinerant business or private aircraft (f) General aviation facilities for local private pilots (g) Hangars to store and maintain aircraft (h) Flight training facilities such as classrooms and simulators (i) Land uses that are not aviation related but are compatible with airport operations and can generate significant revenues for the airport. These may include industrial facilities that can benefit from access to the airport; farming that uses land set aside for noise and safety buffers but that would be incompatible with other uses in proximity to the aviation facilities, especially runways; and natural resources that can be extracted from airport land with little or no surface footprint.	

service can be in an entire community's best interests, and are thus often willing to underwrite ASD programs.

In examining changes in air service with the contributions made by the private sector in support of ASD efforts, the study team found a statistically significant relationship between the amount of resources contributed by the private sector to ASD efforts and changes in departures and passenger enplanements. In other words, as participation from the private sector increased, so did a community's air service.

CASE STUDY
Colorado Springs

The Colorado Springs Airport (COS) serves a catchment area of approximately 610,000 people and lies less than 100 miles south of Denver International Airport, a hub for United. The airport is served by eight airlines and handled over two million arriving and departing passengers in 2007.

Colorado Springs Airport has made a concerted effort to attract additional business and economic growth. Chief among these efforts is the Colorado Springs Airport Business Park, which encompasses nearly 1,000 acres on the airport property. The park opened in 2005 and has attracted a number of aviation-related businesses. The business park is located 25 minutes from downtown Colorado Springs and 5 minutes from the airport terminal. The park is managed by a public-private partnership and offers businesses incentives such as a foreign-trade zone, enterprise zone, personal property tax credit, and sales tax exemption.

A number of aerospace, military, and related businesses have located at the business park. In November 2007, Frontier Airlines announced that it would create a new maintenance base at the airport, with a 100,000-square-foot facility designed to handle maintenance of the mainline Airbus fleet. The $25 million project will take 12 to 18 months to complete and will serve as a base for 225 airline professionals. The City of Colorado Springs assisted in attracting Frontier to the airport with a tax-exempt special facility bond. Linked with the new maintenance facility, Frontier announced that it would commence nonstop service between Colorado Springs Airport and its hub at Denver International Airport, providing convenient, low-cost connections to cities across the country, as well as Mexico and Canada. Thus, Colorado Springs Airport was able to accomplish two goals: (1) generate additional business revenue at the airport and (2) increase airline service to the airport to achieve its ASD objectives. Frontier launched its Colorado Springs Airport service in April 2008.

Airports can also partner with private organizations that are sources of information that will be valuable in attracting or recruiting air service by helping an airline to understand a market's characteristics. For example:

- **Chambers of commerce** can provide detailed information about a community's business environment, tax structure, and attractiveness to new businesses.
- **Tourism organizations** often have some of the best knowledge regarding inbound leisure traffic, including numbers of travelers, seasonality of travel, and the amount of money spent by such travelers. Convention & Visitors Bureaus (CVBs) may also be able to provide information on total visitor nights spent, rooms filled, trips made, and spending patterns. CVBs can be local or regional in nature. Local tourist attractions—whether historical, entertainment, natural, or otherwise—can be great sources of information.
- **Travel agents** can provide aggregate information about local travel patterns.

Federal Government

The federal government is likely to be the largest single provider of outside funding received by an airport. One can argue that much of what U.S.DOT and the FAA do supports air service development at small communities (e.g., providing air traffic control, making grants to airports for infrastructure improvement, or providing subsidies to carriers to operate the Essential Air Service program). However, the program that most directly supports ASD efforts at small and non-hub airport communities is SCASDP.

SCASDP provides grants to help small communities achieve sustainable air service. Through fiscal year 2007, U.S.DOT issued more than 200 SCASDP grants totalling approximately $100 million

Airports can partner with private organizations that are sources of information that will be valuable in attracting or recruiting air service by helping an airline understand a market's characteristics.

Steamboat, Colorado

In Hayden, Colorado, the Yampa Valley Regional Airport serves a catchment area of approximately 40,000 people. The largest city in the area is the resort community of Steamboat Springs. Yampa Valley Regional Airport lies 141 flying miles or 205 driving miles west of Denver International Airport. Traffic at the airport is highly seasonal; peak inbound demand and service occurs during the mid-December to early-April ski season.

The Steamboat Ski & Resort Corporation has worked closely with other local businesses and the Yampa Valley Regional Airport for more than 20 years to increase airlift into the relatively remote resort area of northwest Colorado. The ski resorts themselves contribute another $1 million annually in support of the same effort. The Steamboat Springs Chamber Resort Association is another active proponent of ASD initiatives.

The Steamboat Ski & Resort Corporation budgets $2.5 to $3.0 million in annual funds to support airline revenue guarantees and marketing. The Steamboat Ski & Resort Corporation has an employee who is dedicated to promoting the ASD needs of the community. This partnership has enabled the airport to strengthen its ties with the airlines serving the airport.

to small and non-hub airport communities. SCASDP grants have ranged from $20,000 to $1.6 million and have funded a wide range of air service initiatives. Congress has recently been providing $10 million per year for SCASDP. In September 2008, U.S.DOT announced that it would award another $6.8 million in grants to 16 communities.

Most of the grants provided have been used to fund various marketing or revenue guarantee projects, according to a recently released report from the U.S.DOT's Office of the Inspector General (*11*).

State Government

While state governments usually do not offer the same types or amounts of funding as the federal government, they can still play a vital role in assisting a community to attract new air service. Several states support their airports in various manners. Members of the National Association of State Aviation Officials (NASAO) organize, promote, and fund a wide variety of aviation programs across the nation. Many of those programs are more directed at planning, operations, infrastructure development, maintenance, safety, and navigational aids, but some also support ASD efforts, especially at smaller airports that receive commercial service.

States also may be able to assist more indirectly through various tax abatement programs, economic development grants, and job training programs. ASD teams should be aware that pursuing any of these programs to help with air service development will require long-term sustained effort and an ability to deal with administrative complexity in return for a very uncertain payback.

Major initiatives undertaken with state assistance— such as tax abatement or job training programs—will require long-term sustained effort.

Local Government

Most small airports tend to be operated by local governments, though some are entities of regional authorities. Airports tend to be self-sustaining enterprises to the greatest extent possible, so local government contributions to the airport may be relatively limited (e.g., to some employee salaries). However, local economic development authorities may contribute to ASD efforts.

Military

While not usually a source of funding, local military officials can be helpful in providing guidance regarding the travel needs of their personnel located near an airport. For example, bases that have significant training facilities and that may have benefited from the Base Realignment process may generate significant travel demand. This information may be somewhat general because of security reasons but is still of value.

In-kind Contributions

In-kind contributions do not require a cash outlay by the community but can nonetheless provide an important benefit to the airport. The key is to identify the companies or organizations that are willing to make such contributions as part of a community's effort to attract new air service for the general benefit of the community.

CASE STUDY
Fly Wyoming
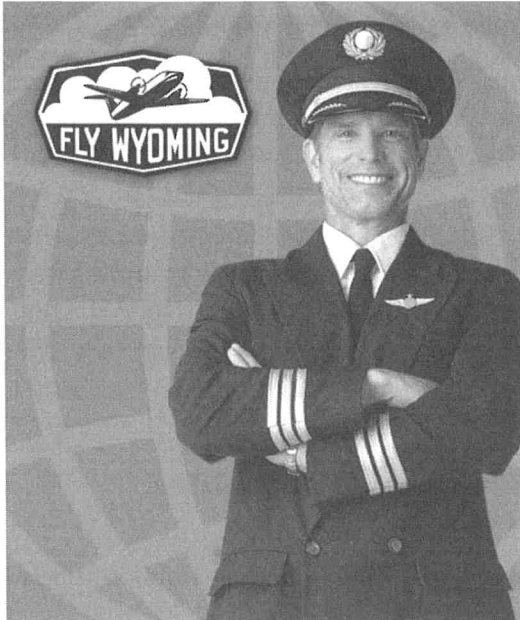
The State of Wyoming strongly supports and recognizes the importance of air service to its economy and its growth potential. It legislatively created an Air Service Enhancement Program in 2004 to support air service at the state's 10 commercial airports. The state appropriates $3 million annually for its WY Aeronautics Commission. Because the program has seen such positive results of enhanced air service in the state and much of the granted money has been reallocated back into the Air Service account, the program now receives $1.5 million annually. The commercial airports can apply for funds to enhance the level of air service but are required to match funds. Examples of how local airports have used the state's funding include:

• Upgrade equipment or increase frequency with existing carriers,

• Add new carriers and/or new hubs with Minimum Revenue Guarantees or risk sharing based on load factors,

• Assist airports in upgrading from a CAT IV to a CAT III classification, and

• Produce marketing and promotional endeavours for airlines providing new service to a Wyoming community.

Another initiative made possible through the U.S.DOT's SCASDP was the state-wide "Fly Wyoming" marketing campaign that highlights the convenience of local airline service to increase passenger awareness and use of Wyoming's commercial airports. The state believed that efforts to enhance airline service were incomplete without a state-wide marketing component. Research revealed that air service in Wyoming was improving as a result of community initiatives and partnerships developed through the state's Air Service Enhancement Program. However, public awareness of the improvements was low, and the "Fly Wyoming" marketing campaign was developed to promote the positive aspects of flying into and out of Wyoming. The campaign is targeted at both in-state and out-of-state business and tourism travelers.

The ultimate goal of the campaign is to facilitate increased airline service and ridership and to eliminate the perception that "you can't get there from here," for both in-state and out-of-state travelers.

The $1 million campaign was funded 80 percent through the grant from SCASDP. The remaining 20 percent was funded through a combination of the Wyoming Aeronautics Commission, air service partner contributions, and a combined $100,000 in commitments made by 10 airports.

A number of firms could provide financial support:

• Airport van companies, which could offer a certain number of free trips between the airport and area hotels for crews that overnight in the community

• Information technology companies, which might be able to provide free or reduced-rate services (for instance, installing computers at ticket counters and gates and in offices) to airlines starting service to a new community

- Ground handling companies, which could provide a certain amount of baggage, fuelling, or de-icing services
- Hotels, which may be able to provide discounted rooms for crews

How much do other airports devote to ASD?

The study team asked airports how much they devoted annually to their ASD efforts, including contributions from non-airport sources. Of particular interest was the scale of resources that airports of various sizes committed to ASD efforts, and how much the private sector was contributing.

As Table 6.2 shows, reflecting their considerable differences in air service activity and the amount of economic activity in the surrounding area, small hub airports were generally able to provide more airport-originating funds than non-hub airports for ASD efforts. Contributions from the private sector and the federal government tended to be greater for non-hub airports.

What types of human resources are needed for successful ASD efforts?

Having access to knowledgeable and talented human resources is critical to being able to keep existing air service and attract new service. These are the people that deal with the airlines and the public on a day-to-day basis and thus understand what both constituencies need to make the airport work for them. Many smaller airports have some in-house staff with the background and expertise needed for ASD programs, but many more do not.

The surveyed airports relied on both in-house staff and local professionals to manage their ASD efforts. Most employed ASD consultants to provide the sort of analytic expertise and assistance that the airports do not have available. Figure 6.1 summarizes the results from that survey.

Table 6.2.   Median amount of resources applied to ASD, by hub size and category of assistance.

Hub size	Category of ASD Resources			
	Airport "Core" Resources[1]	Airport "Extra" Resources[2]	Private Sector Contributions	Federal Contributions
Non-hubs	$53,000	$100,000	$350,000	$500,000
Small hubs	$125,000	$125,000	$250,000	$480,000
All hubs	$70,500	$100,000	$325,000	$500,000

[1] "Core" resources are financial resources devoted to ASD-related salaries, data costs, and other expenses normally associated with basic ASD, such as conference attendance and travel costs to visit airline headquarters.

[2] "Extra" resources are those affiliated with particular types of incentive programs, such as minimum revenue guarantees, subsidies (e.g., fee waivers), and marketing efforts, particularly where airport funds are used to match non-airport funds.

Note: The numbers are not additive. For example, not all airports received federal assistance, and not all applied resources to "extra" ASD efforts. Thus, one should not add the numbers across and suggest that the median amount of resources applied to ASD by all hubs in the survey to be $995,500.

Source: Inter*VISTAS* survey of airports conducted in the fall and winter, 2007-2008.
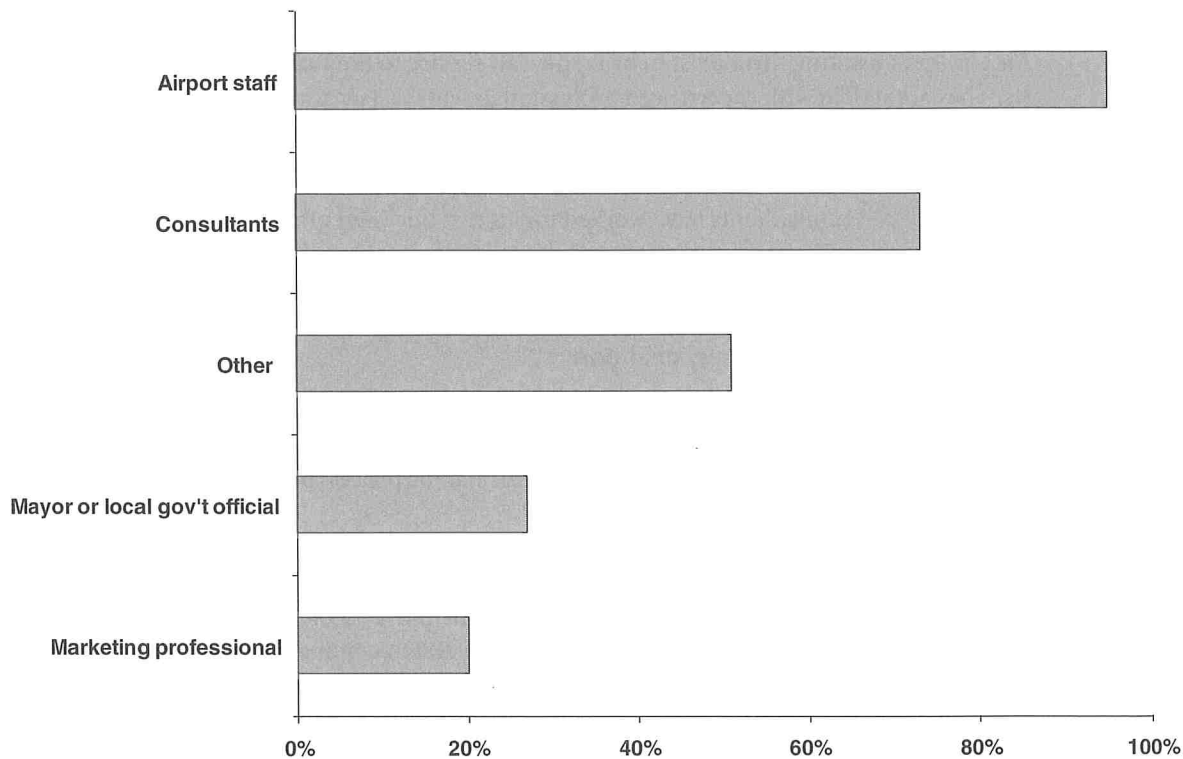
Figure 6.1.   Percentage of ASD teams with in-house staff and other professionals.

Staff Expertise

Most airports have staff members who have a great deal of experience in the primary job functions necessary to attract new air service:

- **Marketing personnel** can help an airport understand which travelers are already using its facility and how to convince those who aren't doing so to reconsider their travel habits.
- **Public relations personnel** are crucial to helping an airport get its message out to its current and potential travelers as well as to its key stakeholders—local or regional government, airlines, travelers, and its employees.
- **Airport operations personnel**—such as police, fire, and airfield maintenance teams—are vital to the smooth running of the airport itself, which is fundamental to many carriers' interests in launching new service at a community.
- **Accounting personnel** are necessary for an airport to understand its revenue-generating capabilities as well as the costs associated with its continued operation—figures that potential new entrant airlines will want to understand.
- **ASD professionals** would coordinate the talents available at the airport, help organize the community in support of air service, and conduct the analyses that are critical to convincing an airline to continue its operations or begin service. However, most small community airports do not have staff with this expertise available in-house.

Outside Resources

Small airports don't have to do the work of attracting new air service alone. There are many ways for them to expand their ASD teams to take advantage of the unique capabilities of non-airport people and organizations with specialized expertise. These people and organizations have different talents that are not often available among airport personnel.

ASD Consultants

Air service consulting firms exist to bring new air service to their client communities and airports. They are staffed with experienced professionals with vast aviation industry knowledge and numerous industry contacts. They also have the technical expertise in route traffic and financial forecasting and in developing presentations that communities can give to airlines.

Most consultants have professional experience with an airline, airport, trade association, or manufacturer. They will have inside knowledge on how the industry looks at market possibilities.

Virtually all ASD consultants have worked for at least one (and often several) airline, airport, trade association, or manufacturer at some point in their career. Thus, they have first-hand, inside knowledge about how the industry looks at market possibilities. They generally understand what is required to attract the attention of a target airline and what the airline wants to see in a presentation by a community or airport.

Consultants can also help assemble, analyze, and package information about the local market—data that the airlines generally do not gather themselves. Information about local economic conditions can be important in an airline's decision-making process because it gives insights into a community's underlying economic strength.

Consultants also bring unique skills and expertise to ASD issues:

- **Domestic and foreign airline industry contacts.** The universe of people who deal with ASD issues for airlines and airports is relatively small. ASD consultants who have progressed through the aviation industry during their careers have developed contacts through professional interactions. These contacts can include staff who handle route/network-planning responsibilities at various airlines. Such contacts ease the process of arranging meetings and can improve the communication between airports and airlines.
- **Understanding of the data.** Understanding the data is one of the most important requirements for an ASD consultant because it provides the basic foundation of a traffic and financial forecast that is presented to an airline. Consultants are experts at working with traffic, yield, operations, and financial data; information from myriad industry databases; and company financial reports.
- **Forecasts accepted by airlines.** The experience gained by ASD consultants throughout the course of their careers gives them a broad understanding of the type of information desired by airlines when considering new service at a community. This is reflected in the consultant's previous success in helping attract new service on behalf of other airports.

Local Professionals

Local professionals usually have a keen understanding of the most important characteristics of and changes in a community. This insight is often the type that airlines cannot obtain simply by looking at data that they have immediately available to them. Local professionals can also provide some specialized services in or oriented to the local market that the ASD consultants might not be equipped to provide, such as local media, marketing, and public relations.

Focused Airport Support Task Force

ASD task forces are able to bring together individuals, corporations, and other organizations that have an interest in keeping a community's existing air service and attracting new air service. It can help to convince an airline that the local community truly supports their airport's efforts to attract new air service. These task force members usually come from a wide variety of local organizations:

- **Major local corporations** usually generate higher-yield travel and have travel patterns that can help to determine needed routes.
- **City/county economic development authorities** help to generate new local businesses and inbound travel.

- **Convention and visitors bureaus, and tourism authorities** understand the inbound business and leisure markets.
- **Hospitality industry** consists of mainly hotels and restaurants.
- **Chambers of commerce** are forums where local businesses can jointly provide guidance regarding their air service needs.

Summary

- ASD programs must be supported by adequate financial and human resources.
- Financial support may be available from numerous sources, including airport operations budgets, the local business community, federal grants, state programs, and other area stakeholders.
- In-kind contributions and other partnerships also can be valuable resources for ASD teams.
- Successful ASD teams comprise a range of professionals who contribute specialized skills. These professionals may include in-house airport staff, consultants, or other local professionals.
- Engaging an ASD consultant taps into a wealth of industry knowledge and contacts and helps focus ASD efforts.
- A broad-based airport support task force can be extremely valuable in building support for— and establishing the credibility of—ASD programs.

Establishing and Validating ASD Goals

Defining goals—exactly what type of air service improvements a community is seeking—is the heart of an ASD program. Ensuring that those goals are realistic is vital to actually achieving them. This chapter discusses the major types of ASD goals and the conditions under which they might be appropriate for a specific airport. It also provides techniques for validating goals through an objective reality check.

What is the overall process for identifying goals?

Air service goals must be developed within the context of how the industry is performing and its emerging trends, as discussed in Part I of this guidebook. Considerations include changes to airline business models, external factors that affect carriers' costs, and regulatory changes that may affect ways in which air carriers can expand. Understanding the aviation industry is essential not only for establishing goals, but also for prioritizing actions as shorter term or longer term.

The community should be an integral part of developing ASD goals.

The community should be an integral part of developing ASD goals. The ASD team's role is to effectively communicate the market assessment and industry knowledge to the community as context for the goal-setting process. When the community is appropriately informed and involved, their input is more valuable and their ASD expectations are more realistic. As discussed in Chapter 6, the best way to involve the community in ASD is to work with key stakeholders on a regular basis. Pursuing ASD goals should always begin with an airport's incumbent carriers. Incumbent carriers have a good understanding of the community's traffic patterns and are a first line of opportunity for adding new service—whether more frequencies, larger aircraft, or most commonly, service to a new point or connecting hub.

However, service from incumbent air carriers—whether a mainline network carrier, an LCC, a regional affiliate of a network carrier, or a low-fare niche carrier—can be a double-edged sword for ASD efforts. The service is a great marketing tool for the airport if it is heavily used and the carrier has expanded service over the years. However, the service also could be relatively unchanged over time. Pursuing new air service with incumbent carriers can be difficult at times, particularly because a small airport's ultimate goal is to expand its frequency and pricing options. Usually incumbent carriers at small airports have been sustainable over time due to loyalty, attractive flight schedules, and connectivity to hubs (and beyond destinations) that are of interest to the community.

If the incumbent carrier is unwilling to expand at the airport or does not serve the target destination, then the community will need to pursue a new carrier. Adding service may be appealing for additional network carriers who have hub structures because a new connection from the airport may introduce new connections and shorter itineraries to an array of destinations. If an

incumbent carrier has not responded to the airport's need to keep fares lower than or competitive with those available at similar-sized airports, the community may want to seek a low-cost or niche carrier.

Finally, ASD teams must remember that each air carrier that either serves the community or is a target for new air service has a specific business model and operates differently than other carriers. ASD teams must tailor their goals to the unique circumstances of their market and the air carriers they are targeting.

What are the categories of ASD goals?

The airports surveyed identified several general categories of ASD goals:

- Retaining existing service
- Adding service to a new destination
- Adding frequencies to current services
- Lowering fares/introducing new competitive service
- Improving service reliability
- Upgrading aircraft
- Increasing access to global networks

Retaining Existing Service

Retaining existing service by incumbent carriers was the top goal identified by the airports surveyed (Figure 7.1). Retaining service is important in and of itself and also for an airport's ability
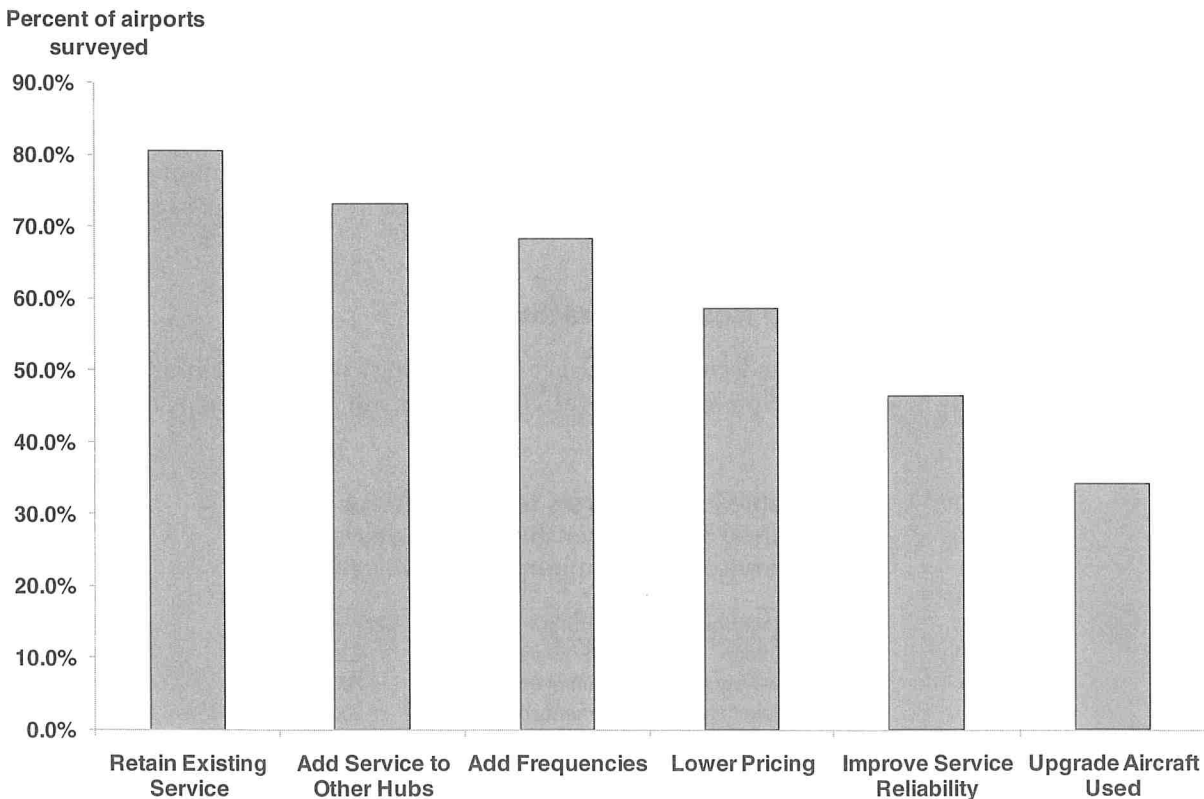
Figure 7.1.   ASD goals for incumbent carriers.

to recruit additional or expanded service. Retaining air service is necessary for both the business and leisure sectors of air service markets.

In fact, in the current environment, retaining existing air service may be the most important goal for many smaller communities. It should not matter whether an airport is 200 miles away from a competitor or within 40 miles of three airport competitors; an airport's ability to retain air service will always help the ASD team develop new service with incumbent carriers. The industry's overall financial condition, potential mergers or consolidations, labor issues, changes in fleets, and proposed congestion pricing at some airports are among the many reasons that existing air service may be re-examined by air carriers. If the incumbent air carrier has warned the ASD team that a route may be underperforming, service at the airport may be threatened.

If an airline announces that it intends to restructure its hubs or fleet, smaller communities need to understand the implications for retaining air service:

- A major air carrier closing one hub (e.g., St. Louis) and shifting traffic to another affects an ASD team's goals because the new hub may be more congested, ultimately affecting the travel experience for those using the small airport. However, small communities are better off if traffic is reassigned to a new hub than if all air service is lost.
- A regional carrier deciding to remove a certain aircraft type from its fleet or reassigning a fleet to a different hub can lead to a change in ASD goals as well. Today's environment of high fuel costs makes it even more critical to monitor air carrier fleets and related impacts on ASD goals.

The possible negative impacts of losing incumbent carrier service should be a stark warning to small airports nationwide.

The possible negative impacts of losing incumbent carrier service should be a stark warning to small airports nationwide. In response to the deteriorating economy, several airlines announced withdrawals from markets that they had served for many years (see Table 7.1). Although an incumbent's leaving may open the door to a new entrant, small airports will face additional hurdles in overcoming negative market impressions that either the community is too small to support service or that the market is too competitive for a carrier to have sustainable business. If the incumbent has served the marketplace for many years, it will be difficult for the community to argue for another carrier to enter the market. If the incumbent has been in the market for only a short time, the community can argue that the problem was due to the carrier's marketing plan, or that the air carrier simply did not give that route enough time to turn a profit. Short-term stays on routes by incumbent carriers could have been caused by an air carrier's reorganization, either for financial reasons or fleet changes.

Hurdles grow exponentially if an airport loses all scheduled service.

Adding Service to a New Destination

Successful ASD teams understand the balance of continuing to work to retain air service while developing new services. Now more than ever, communities realize that bringing in service that

Table 7.1. Markets that lost incumbent carrier service over the last five years (service lasted a minimum of five years).

Location	Airline Pulling Out	Service Cut
Toledo	US Airways	2004
Newburgh, NY	American	2007
Bakersfield	American	2001
San Luis Obispo	American	2008
Sarasota	Continental	2008
Fort Wayne	US Airways	2004
Hilton Head	Delta	2008

will directly compete with their current services could be harmful to the sustainability of their market. ASD teams need to consider a number of issues:

- Will new air service significantly overlap with the airport's existing service from other carriers or make its current service less sustainable?
- Will service to a different connecting hub create a new directionality of air travel out of the ASD team's community?
- Will service to a new connecting hub create many new one-stop opportunities? Are these new opportunities important for passengers within the airport's catchment area?
- Will new service improve the customer service experience for the airport's passengers?
- How will new service affect the potential that the community has for attracting new entrant carriers?

Small communities often need to pursue new air service because of changes to the mainline carrier's hubs. After Delta closed its hub at Dallas/Fort Worth International in September 2004, some communities in the Midwest sought new westward connections via Delta's Salt Lake City hub. Similarly, after US Airways downsized its Pittsburgh operation in November 2004, the airline shifted service from many small communities to Philadelphia International. However, for some communities, that was a directional backflow. In addition, the flights increased the level of congestion at Philadelphia International. For many of these communities, a new goal of adding air service to US Airways' hub at Charlotte Douglas International offered a realistic alternative to supplement Philadelphia services.

Incumbents will scrutinize the goal of service to a new destination. They understand that adding new service will divert current passengers and revenue from the existing service. By assessing the situation through the techniques outlined in Chapter 5, an ASD team should identify traffic and revenue dynamics that help support the argument that expanding incumbent air service will add incremental benefits.

ASD teams also need to account for competitive service offerings at nearby airports. The recent loss (or gain) of air service to a particular region or from an air carrier at those nearby airports will affect the opportunity of the ASD team's community to add new service. ASD teams should assume that if their airport is working toward developing air service by an incumbent to a new location, and if competitive airports have the same incumbent carrier, then those airports may have the same air service goals as well. Understanding that likelihood enables ASD teams to be better prepared to campaign for new service.

In the survey of ASD teams, gaining new service to a new destination was a top motivator for seeking service from new air carriers (Figure 7.2). Surveyed airports were essentially evenly split between obtaining that service from an LCC or a legacy carrier. Communities simply wanted the new nonstop destination. Bringing in LCC service as an alternative to existing service has also been a major goal of small airports because of the fare dynamics and community feedback.

Adding LCC Flights to New Destinations

Lower fares entice both business and leisure travelers to larger, more distant airports where more carriers offer services. Because of this price differential, many small airports ranked very high the goal of bringing a low-cost carrier into their market.

LCCs do not have a history in small communities. Rather, LCCs tend to serve only airports in or around larger metropolitan areas, which provide a critical mass of passenger traffic and an ability to enter markets with multiple frequencies. Thus, small communities are less likely to have service from carriers such as Frontier Airlines, Southwest Airlines, JetBlue Airways, and AirTran Airways.

Percent of airports surveyed
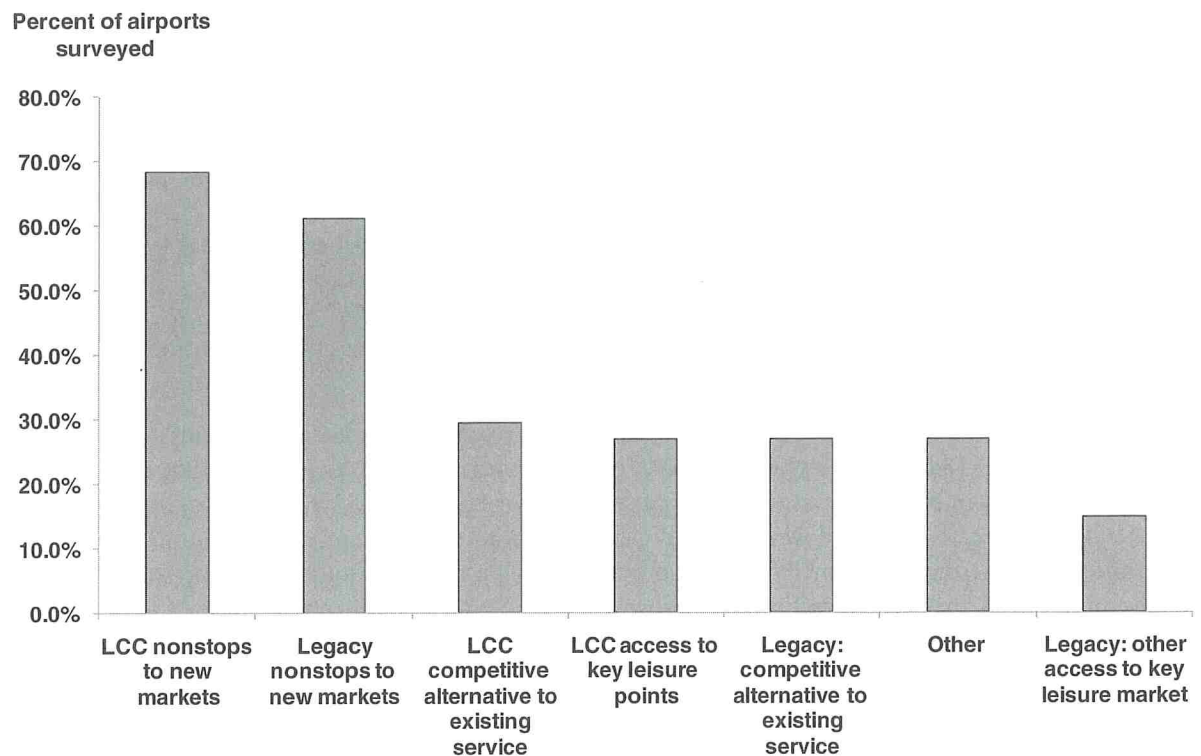
Figure 7.2.   ASD views on goals for new entrants.

Still, certain small communities have been successful in gaining LCC services. In many of these examples, that service has been into a connecting hub (i.e., Frontier and its regional partners adding services to Denver or AirTran adding service into Atlanta and Orlando).

A significant amount of passenger leakage from small communities to larger airports is due to the availability of lower-fare services to key leisure and business destinations. Connecting small communities with key leisure markets has long been a challenging goal. Hub networks, the limited range of turboprops, and airline business models prohibited these services from fully growing. The current marketplace has seen a growth in these types of connections due to new business models from niche carriers, a changing regional aircraft fleet, and new marketing techniques by airport communities.

One such niche carrier, Allegiant Air, has been developing a route network that connects top leisure destinations (Las Vegas, Orlando, Phoenix, Tampa Bay, and South Florida) to small communities with less-than-daily service (Figure 7.3). Allegiant's use of relatively large aircraft—older MD-80s (see Figure 7.4)—works in part because it does not operate those routes on a daily basis. Small-community ASD teams throughout the country that are losing access to key network hubs and experiencing high average fares regard attracting Allegiant and similar niche carriers as a potential goal for their community. Unique service patterns that rely on point-to-point traffic have created opportunities for small communities, which mostly rely on hub connectivity. Survey respondents around the country have identified niche carriers as a way to proactively expand service, while making it sustainable due to new and creative partnerships between the air carrier and the community.

Figure 7.5 illustrates how new niche LCC service at Roberts Field-Redmond (Oregon) Municipal Airport stimulated local traffic to Las Vegas. Allegiant Air introduced twice weekly nonstop services to Las Vegas in March 2007. In response to Allegiant's low fares, traffic in the Las Vegas market doubled. Average fares in the market dropped by 30 percent.
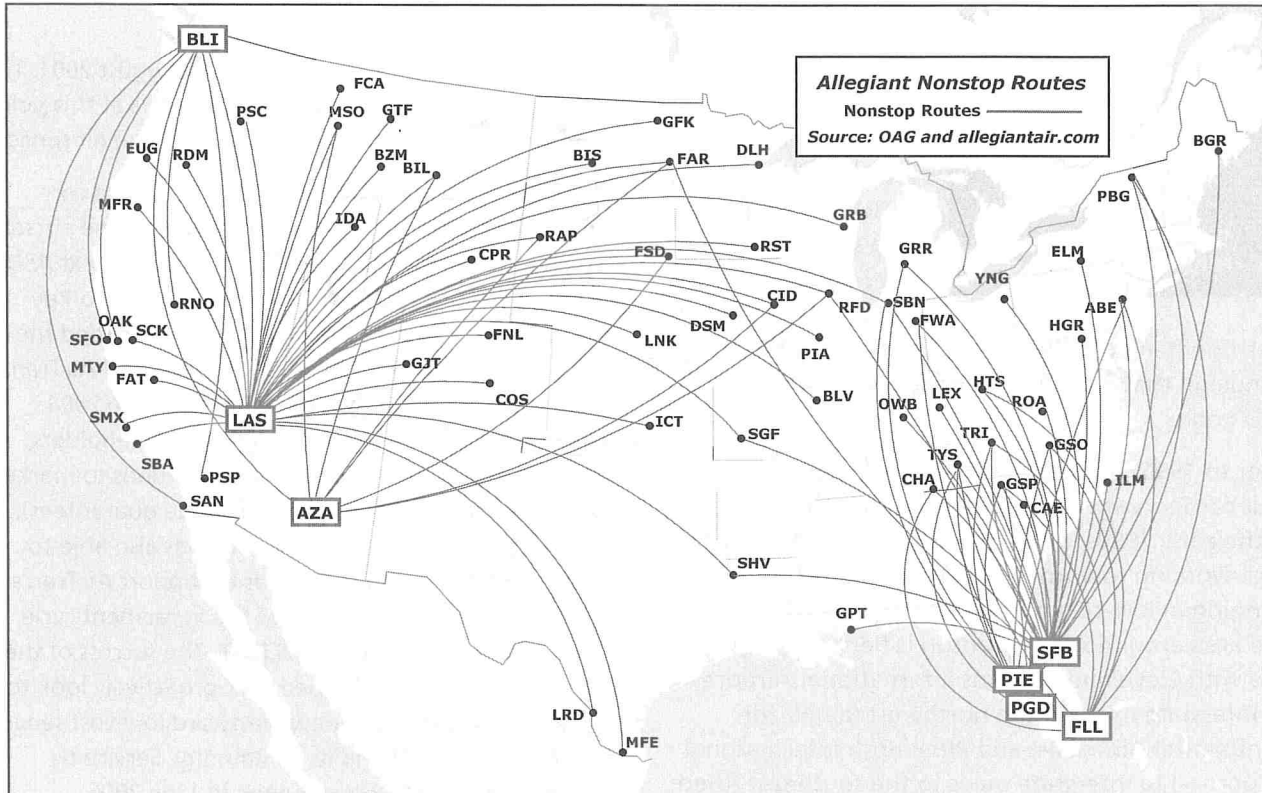
Figure 7.3.   Allegiant's system connects smaller community airports with major leisure destinations.

Source: Image courtesy of Allegiant Air.

Figure 7.4.   Allegiant's 150-seat MD-83.

CASE STUDY
Akron-Canton Airport's recruiting an LCC

Akron-Canton Airport (CAK) in North Canton, Ohio, is a small hub airport in northeastern Ohio that serves as an alternative airport to the Greater Cleveland metropolitan area. The airport has a marketing campaign that follows a set of realistically developed ASD goals.

Prior to 1996, Akron-Canton Airport was served by four carriers with nonstop service to four locations. In the early 1990s, airport management decided to start working toward increasing enplanements by bringing in low-cost air service to northeastern Ohio. The area around Akron-Canton is fiercely competitive with Cleveland Hopkins International Airport—55 Interstate miles to the northwest (a hub for Continental Airlines)—and Pittsburgh International Airport—110 Interstate miles to the southeast (then a hub for US Airways). In the mid-1990s, nearby Youngstown-Warren Regional Airport—65 Interstate miles to the east—was also served by three carriers to three locations.

Akron-Canton Airport's initial goals were to attract a low-cost carrier to the market for either business or leisure destinations. After hard work, the airport welcomed AirTran Airways with service to Orlando. In April 1997, the airport attracted ValuJet Airlines with an average of three flights a day to Atlanta. After ValuJet and AirTran merged, their services to Atlanta and Orlando continued under AirTran. In the face of this new low-cost competition, Delta Air Lines added additional service to Akron-Canton in August 2001. The airport was still under a million passengers at this point but maintained realistic goals of developing air service.

After the events of September 11, 2001, Delta converted its services out of Atlanta from mainline aircraft to CRJ regional jets. Akron-Canton Airport's next ASD goal was to develop new low-cost service to key business-focused markets. The U.S.DOT awarded the airport a SCASDP grant in 2003 which helped AirTran commence service to New York LaGuardia in 2004. With an overwhelming response from stakeholders, CAK was able to apply all of the grant funds to marketing (i.e., none were used in the revenue guarantees). With an amended agreement, CAK was also able to apply some of the SCASDP funds to support AirTran's service to Boston. At the end of the agreement cycle, CAK returned $230,000 to U.S.DOT. The success of the program with AirTran helped CAK proactively look to its next goal of creating new westward low-cost service for both the airport and its community. Service by Frontier Airlines to Denver began in June 2006.

With the downturn beginning in 2008, CAK focused on retaining its existing service. However, the airport has set some new goals that include working toward limited international service to nearby regions such as Canada, Mexico, and the Caribbean.

The airport's goals are not "pie-in-the-sky" by any means. The ASD team realizes that, as a small alternative airport in a large metropolitan area such as Greater Cleveland, CAK can have two low-fare carriers, but only with hard work. CAK has effectively developed itself as a low-fare, small facility, easy-to-use gateway for Northeast Ohio residents.

Developing New Legacy Carrier Service to New Destinations

If an airport's market assessment indicates that LCC service is unlikely in the near term, the ASD team should examine service from a new network carrier. The business traveler mix may be strong and showing signs that it could grow if more services were added. For these airports, adding new service on another legacy carrier to a new connecting hub becomes a realistic goal. Service to a different hub may also introduce new connections that were previously unavailable. In addition, as noted previously, when a major carrier reorganizes its hubs, small communities may need to develop strategies to move their traffic and service over a different hub.
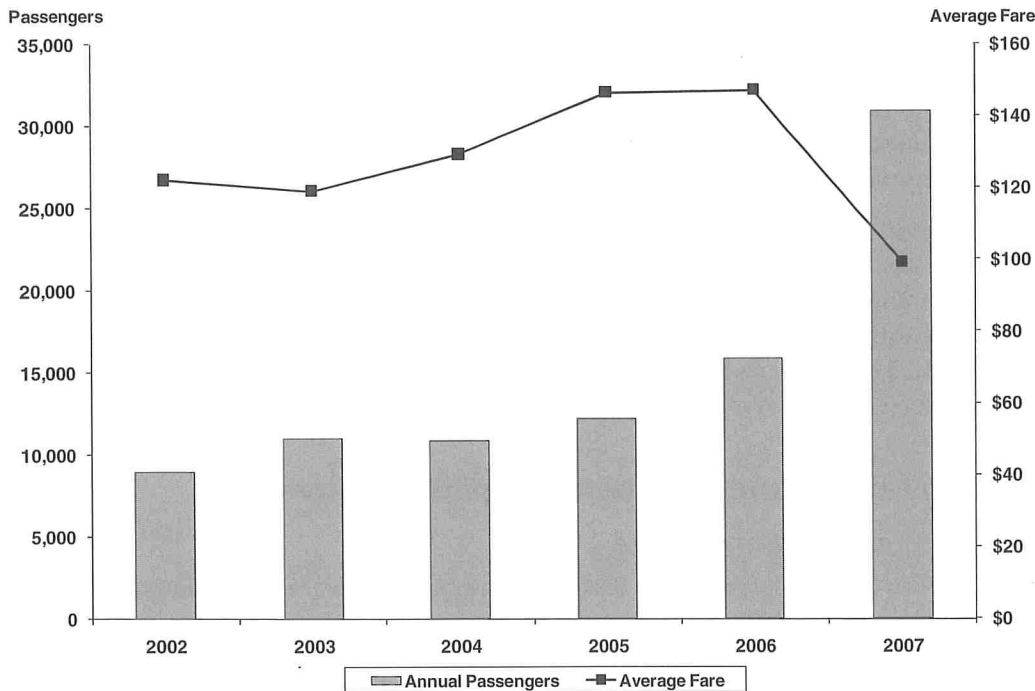
Source: Inter*VISTAS'* analysis of U.S.DOT data.

Figure 7.5. Allegiant's entry at Redmond Municipal Airport doubled traffic to Las Vegas.

CASE STUDY
Expanding service with other network carriers

Airports often seek service from different network carriers if they are looking for more connections to the global marketplace or if the current service is unsustainable due to delays or unfavorable routings.

In 1997, Northwest Airlines decided to bring new service to three markets in Central Pennsylvania and Southern New York. These markets included Binghamton, New York; Elmira-Corning, New York; and State College, Pennsylvania—markets previously served only by US Airways to its Pittsburgh or Philadelphia hubs. These communities were ecstatic to see a new carrier enter their market because it meant access to a large Detroit hub that serviced destinations throughout North America, Europe, and Asia. The number of connections made in Detroit far outnumbered those made at the hub in Pittsburgh.

Northwest developed these services over time, upgrading some from turboprop frequencies to

regional jets. In 2002, US Airways entered bankruptcy reorganization and eventually made the decision in 2004 to shutter its Pittsburgh hub. US Airways shifted some of the Pittsburgh service to Philadelphia. The problem, however, was that US Airways' connections over Philadelphia forced travelers into a directional backhaul and increased airspace congestion in the Northeast. Communities that had obtained service from Northwest suffered less of an impact because access to Detroit provided east-west flows. Northwest later added two more similar small communities to its Detroit hub portfolio in 2005—Latrobe, Pennsylvania, and Ithaca, New York.

This example shows that for many small communities an important goal may be improving the types of new entrant hub connections that can be made in their market, both in the short term and longer term.

Adding Frequencies to Current Service

The greatest need for some communities may simply be additional frequencies on existing routes to help fill out service patterns and provide more connection opportunities at hubs. Developing more demand from the community through additional frequencies in the short term will also help attain new services in the long term.

Because small airports generally face challenges in fare and capacity competition from larger airports, the goal of adding frequencies is usually to attract more business travelers. Connecting hubs have various banks of departing and arriving flights. By expanding access to those banks at the hub, the ASD team is incrementally giving its passengers additional opportunities for connections. Adding frequencies from niche carriers that may have less than daily service to a destination with no onward connections also can be an important ASD goal for a community.

Lowering Fares/Introducing New Competitive Service

Lowering Fares for Existing Service

Small airports clearly offer passengers the ease of parking convenience, shorter lines, and shorter driving distances. Relatively high prices on airfares, however, are typical and often a key factor that causes passengers to use other airports.

The extent that high airfares affect passenger traffic depends mainly on the geographic location of competing airports. In fact, even airports three hours away from a large hub airport should be concerned with airfares. Customers—especially leisure passengers—are typically willing to make long drives in order to get cheaper prices. Airports that are within driving distance

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CASE STUDY
Adding frequencies to an existing location

Dickinson Theodore Roosevelt Regional Airport (DIK) in North Dakota services western North Dakota, eastern Montana, and northwestern South Dakota. With approximately 8,500 annual passenger enplanements, service at DIK is supported by the Essential Air Service Program. Although the airport is small, it still provides a lesson in how a community can add frequencies with an incumbent.

In the early 2000s, Dickinson had two daily flights to Denver International Airport provided by Great Lakes Aviation, a code-sharing partner with both United Airlines and Frontier Airlines. Great Lakes operates the Embraer 120 Brasilia, a 40-seat twin-turboprop aircraft, for service between DIK and Denver International. Both Great Lakes and Dickinson Airport officials noticed an increase in demand traffic due to the oil sand exploration in western North Dakota. The airport and air carrier held strategic discussions to discuss ways to develop

a third frequency. Both agreed that the airport should pursue a SCASDP grant to help support a third daily flight to Denver.

With support from a U.S.DOT SCASDP grant in 2004, Great Lakes was able to operate a third roundtrip from June 2004 through December 2004. This trial period proved to be a great success. After the trial period Dickinson went back to two round trips a day. In November 2006, through the Essential Air Service Program, Great Lakes and the airport were granted three roundtrips. The basis for the increase was how well the third roundtrip was utilized during the trial period. The third roundtrip started in February 2007. It was immediately embraced by the community and during 2007 the airport saw a 40% increase in enplanements. Through October 2008, both total traffic and load factors increased compared to 2007, with October enplanements nearly 20 percent above October 2007 levels.

of a connecting hub also face price pressure because certain passengers may choose to drive to the hub rather than take a connecting flight. With gas prices and hotel costs increasing, it is especially important that smaller airports make efforts to keep their prices competitive.

The higher average airfares in small communities are generally due to the lack of competition in those markets (2). Airport officials and ASD teams nationwide are fully aware of the difficulty they face in trying to lower their average airfares. This awareness may be the reason why airports ranked lowering prices in the middle of their team goals. It is understandable that ASD teams would want to pursue lower prices as a goal, but the reality is that price competition from nearby airports and their air carrier offerings are difficult to overcome. Many small airports are focused on increasing service, frequency, and air carriers in hopes that new competition may spur lower prices.

Introducing a Low-Cost Carrier

In the cases of many small communities, the incumbent carrier may not be willing to introduce significant changes. Incumbent carriers typically favor playing it safe and keeping current hub connections in place. These current services to the hub are probably attracting an adequate level of passengers, making a revenue contribution to the carrier's network, and providing passengers with reasonable connectivity to the global network.

CASE STUDY
Paducah, Kentucky's fare comparisons against Nashville

The Barkley Regional Airport (PAH) serves Paducah, Kentucky, and has a catchment area that includes western Kentucky, southern Illinois, southeastern Missouri, and northwestern Tennessee. The only scheduled carrier in the market is Northwest Airlink to Memphis International Airport. The airport previously had service to St. Louis and Nashville when those airports were larger regional hubs. Lowering prices remains a major goal of Barkley Airport to retain air service and to market the airport for potential future expansion of air carriers and destinations.

Barkley Airport's leakage is mainly to Nashville International Airport (150 miles away) due to lower fares being offered by LCCs and greater access by legacy network carriers. The Barkley Airport staff is aware that it has no control over the fares that Southwest Airlines can offer out of Nashville; however, to inform the traveling community of how competitive its fares and service are and to help retain business passengers flying out of its airport, the staff developed an approach called *BestFares*.

Understanding that Northwest serves both Paducah and Nashville over Memphis, the staff regularly tracks the differences in fares between both cities. The *BestFares* project tracks fares to the top 25 markets and includes an analysis on fuel costs and Nashville International Airport hotel costs. *BestFares'* focus changes weekly. One week the *BestFare* may be to New Orleans, the next to Houston, Texas. It may also show an increase or a decrease in comparison to other months. The airport sends its *BestFares* report to six Chambers of Commerce in its catchment area. The airport's ability to educate its community on the total costs of driving the 150 miles to Nashville has been valuable to key passengers using its Northwest Airlink service. It also has generated interest from the community in expanding air service at Paducah.

Paducah has supplemented its *BestFares* effort with a communication link to sales staff representatives at Northwest Airlines to further understand fare dynamics. The airport and air carrier have come to many agreements on "right-sizing" fares in certain markets to increase reservations on key hub connections. These agreements have proven to be mutually beneficial to both the community and Northwest.

While small communities need to maintain positive relationships with incumbent carriers to stimulate fare competition, they may need to introduce service from LCCs with networks that rely on hub connectivity, such as Frontier at Denver and AirTran at Atlanta. Examples of new service provided by such LCCs include Frontier's service at Hector International in Fargo (competing with United) and AirTran's service at Charleston (South Carolina) International (competing with Delta).

Seeking LCC service does not necessarily mean that the airport seeks to eliminate its current services. Every small community wants to keep both their network carriers and their LCCs—Delta and AirTran, Frontier and United, and Allegiant and US Airways. But pursuing LCC service can create a conflict between the stability provided by network carriers and the possibilities raised by LCC entry.

Introducing Competition by Legacy Carriers

The majority of growth by legacy network carriers at small communities has been to connecting hub complexes. In today's marketplace, not many destinations can sustain competing service on two legacy carriers. The only exceptions are either large airports with more than one hub carrier such as Chicago O'Hare (hub for American and United) or large multi-airport metropolitan regions where different legacy carriers fragment markets (e.g., New York City; Los Angeles; Washington, DC; etc.).

Small communities understand the nature of nurturing current services, supporting market growth, and thereby stimulating an expansion of services to other connecting hubs. If a community such as Lincoln, Nebraska, already has service to Minneapolis–St. Paul on Northwest Airlink, then it is not going to attract a competing legacy carrier to the same market. Communities have tried to access markets such as Chicago O'Hare, Los Angeles, New York LaGuardia, and Washington National with more than two carriers but are often thwarted by burdens of market access, competitive strength, and slot availability. In most cases, seeking services to other hubs by legacy carriers is a more achievable goal.

Complementing Existing Service

A community is more likely to attract new air service to its target market if that market currently receives only connecting service. That is, if the only service available between Point A (the community's airport) and Point C is via one or more intermediate hubs B, then the community airport stands a better chance of convincing an airline to serve that market on a nonstop basis.

Few small communities can generate enough passenger traffic to support two airlines competing to provide nonstop service to a particular destination. In addition, there are an equally small number of situations where two carriers are logical choices to offer nonstop service in the same market from these communities. Introducing new nonstop service, on top of existing nonstop service, will likely harm relations with the incumbent airline and could also provoke a competitive response (see the following subsection).

But the main reason nonstop service in a new market is more likely to be successful is because it will have a greater impact on the community's travelers by making another market much easier to reach. It could also have the effect of introducing another airline, and potentially another airline alliance, to the community with all of the competitive benefits that that would entail.

Anticipating the Likely Competitive Response

An airport should understand that new service will likely generate some form of competitive response from its current carriers. But that should not impede efforts to attract new services and carriers to a community. As long as the proposed new services can reasonably be expected to be supported by the community's travelers, the airport can at least reasonably discuss the situation

with its incumbents. The airport needs to anticipate what the reaction will be and how its passengers might react. That can affect the ultimate viability of the service.

Responses by incumbent airlines. Responses by airlines already serving your airport can vary widely depending on the nonstop market being entered, the incumbent carrier's position in that market, the aircraft type to be used, and the importance of the revenue generated by the market's traffic to the incumbent.

An incumbent carrier might make no competitive response at all if, for example, the target market is in a different region of the country than the current airline serves (at least on a nonstop basis). For example, Alaska Airlines/Horizon Air's response at Redmond, Oregon, to Delta's entry from its Salt Lake City hub appeared generally passive; the two carriers did not compete in any nonstop markets, as Alaska/Horizon concentrated on the West Coast markets of Seattle, Portland, and Los Angeles.

An incumbent may alter its frequencies or aircraft capacity in a market upon the entry of a competitor. For instance, in both of the Bloomington (Illinois) and Wichita to Atlanta markets, Delta increased the number of its flights in each market when AirTran began serving them. Similarly, Delta upgraded some of its flights from RJs to mainline jets in both the Mobile and Pensacola to Atlanta markets upon AirTran's entry.

In similar situations, the response may not entail service changes but may include fare actions to be competitive with the new service offering. For example, after JetBlue launched its nonstop service from New York JFK to Long Beach (California) Airport, American responded by matching the fares and offering double frequent flyer miles.

In dramatic contrast, the response by an incumbent carrier facing nonstop competition for the first time, especially to one of its hubs, could be a virtual declaration of war to protect its market (and market share) at all costs. The most determined of such responses is sometimes considered to be Northwest's reaction to Reno Air's inauguration of nonstop service in the Reno to Minneapolis–St. Paul market in the early 1990s where U.S.DOT became involved to moderate Northwest's actions. Similarly, Northwest defended its Michigan turf when Independence Air began flying between Washington Dulles and Lansing (Michigan) Capital Region International Airport. Even though Northwest did not originally operate in that market, it treated Lansing as if it were a hub route and put significant capacity into the market (which had never had nonstop service prior to Independence Air's arrival), eventually helping to force Independence Air to abandon the market.

Responses by airlines serving competing airports. New service at some smaller communities could trigger a competitive response from airlines at nearby airports, especially if the two airports have overlapping catchment areas and the competing airports have larger population bases. A good example of this phenomenon occurred at Baton Rouge Metropolitan Airport after Delta Connection launched new nonstop service to Orlando International in 2003. Both Southwest and AirTran increased their own service to Orlando International from New Orleans International (about 70 highway miles from Baton Rouge). While Delta's Baton Rouge to Orlando service lasted for several years, it was eventually dropped because of the continued and growing competition at New Orleans, as well as Delta's significant reduction in its point-to-point flying in 2007, as illustrated in Figure 7.6.

Another potential response at competing airports could involve leisure destinations such as Orlando and Las Vegas that may be perceived to be interchangeable. The theory is that there is only a limited amount of leisure demand at most smaller airports, so more service to leisure destinations from a nearby airport could fragment the smaller airport's demand for such service and render its leisure destinations unprofitable, causing that service to be discontinued.

Number of Departures
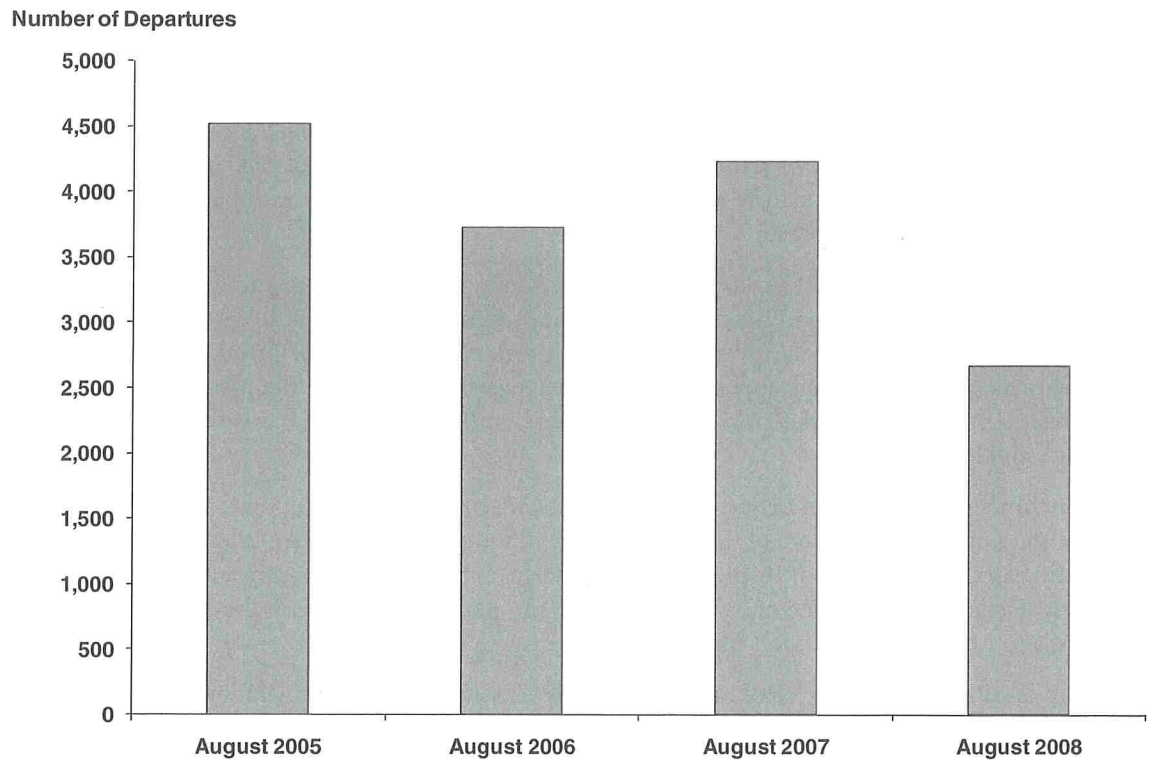
Figure 7.6.   *Delta has decreased its non-hub point-to-point flying.*

For example, Allegiant recently ended its twice-weekly nonstop service from Lincoln to Las Vegas. Southwest's three daily nonstop flights to Las Vegas from Omaha, about 60 highway miles from Lincoln, may have contributed to Allegiant's decision to drop its less frequent service.

Improving Service Reliability

In a magical world, every airline would run perfectly with on-time service. Each airport would be designed to handle foul weather situations without delay. Air traffic and airport congestion would not exist. The reality is rather different. Flights are delayed and cancelled because of maintenance, weather, and congestion. Particularly at smaller airports that have less frequent connecting flights, service reliability can become a major problem. Improving service reliability is an important goal for retaining passengers. After one too many cancelled or delayed flights, those travelers start complaining, "I don't want to fly through that hub anymore—my flight is always cancelled or severely delayed."

Many aspects of service reliability are completely out of an airport's control. For instance, departure or arrival delays may often be caused by FAA air traffic control issues at a different airport. Air traffic congestion in key large metropolitan areas—such as Chicago, New York, and Washington, DC—also can affect operations at smaller airports, if FAA holds aircraft on the ground.

Some small airports—especially Essential Air Service communities—experience a related issue: they are dependent on service to a single hub that has its own operational reliability difficulties. For example, Williamsport, Pennsylvania, and New Haven, Connecticut, have service only from US Airways into its Philadelphia hub (Figure 7.7). When operations at Philadelphia suffer delays, service to Williamsport and New Haven suffers as well.
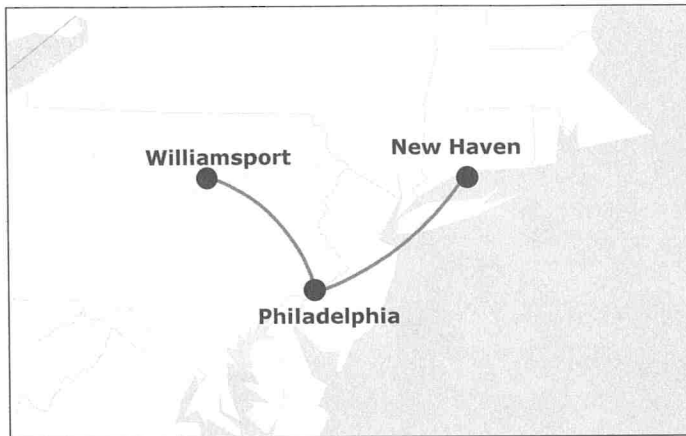
Figure 7.7.   Some airports depend on service to a single hub.

As a result, it can be very difficult for an individual small airport to tackle "improving service reliability" as an ASD goal. Small airports do work to improve operations and introduce efficiencies, but those efforts are usually outside of their ASD programs. If service is suffering greatly from poor reliability to the hub, then the airport can have a goal to explore other options with a new entrant carrier. Collectively, small airports have an active voice through their trade associations to maintain their access to congested markets and keep their piece of the pie.

Upgrading Aircraft

The economics of the regional aircraft industry is changing as advancements in fuel efficiency, range capabilities, and operational performance are influencing how small communities are served. Smaller turboprop aircraft and regional jets have been cut in some longer-haul markets, but carriers will continue to need and use them in the foreseeable future. If an airport's market assessment shows that services on 50-seat regional aircraft are threatened, then the community may be wise to see if it can support service with larger regional aircraft—even if it means less daily frequency.

Regional aircraft manufacturers have introduced many improvements in new turboprop aircraft, particularly in terms of speed, vibration, and noise. Horizon Air, which has been a large operator of the 76-seat Bombardier Q-400 (Figure 7.8) in the Pacific Northwest, has praised the economics and passenger experience repeatedly.

In the northeast United States, Continental Airlines has partnered with Colgan Airlines to introduce Q-400 service into closer-in markets of all sizes. Continental previously served those markets from its Newark hub multiple times a day with 37- and 50-seat RJs that contributed to delays in the local congested airspace. The Q-400 allows Continental better usage of scarce runway capacity at Newark, cuts down on operational delays, and introduces more seats per departure. For markets like Albany, New York, and Burlington, Vermont, these qualities work toward the goals of both upgrading aircraft and retaining service.

Larger regional jets—including the Embraer 170/175 family and the Bombardier CRJ-700/900 family (Figure 7.9)—have been playing a dual role in many carrier fleets. For some communities, they have replaced larger aircraft such as an MD-80 or 737, while in others they have replaced 50-seat RJs.

If a community's market assessment indicates that its nonstop route network and frequency of service are unlikely to change, then a goal of upgrading aircraft would be a positive step. Larger

Figure 7.8.   Horizon Air Q-400 serves Kalispell, Montana, from Seattle.

regional jets can include a first class cabin, which could create additional benefits for business travelers who use the airport. It is paramount, however, to be able to demonstrate attractive market dynamics on the current services (high load factors, yields, passengers) before setting a goal of increased aircraft size.

Increasing Access to Global Networks

Today's aviation industry is truly global. One-stop connections can be made from South Bend (Indiana) to Beijing, from Cheyenne (Wyoming) to Frankfurt, or from Big Flats (New York) to Osaka. Carriers earn relatively high yields on these flights, and business travelers on those routes are often repeat customers who are less price sensitive. Access to both U.S. domestic and global route networks are key for a small community generating air service demand.

Figure 7.9.   Embraer 170 in US Airways livery.

Gaining additional service from incumbent carriers may mean increased access to major international gateway airports. Some of those hubs, such as Chicago O'Hare, Dallas/Fort Worth, Newark Liberty and Washington Dulles, support large amounts of domestic traffic as well. The major carriers there operate several banks of connecting flights to key large- and medium-sized metropolitan areas throughout the day. However, international operations tend to cluster at certain times of the day. Moreover, Asia-Pacific arrival and departure times differ from European and South American times. Therefore, access to various "connecting banks" can be a key goal for small communities.

What other goals support ASD?

Opening a new station or expanded operation in a small community involves a significant amount of financial risk for an air carrier. An airport with a competitive structure of rates and charges and realistic capital improvement plans will be attractive to an air carrier that deems the airport attractive based on traffic trends and forecasts. If a small community has not illustrated

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CASE STUDY
Competing airports in central Illinois provide different connections to the world.

Peoria, Springfield, Bloomington-Normal, Champaign-Urbana, and Decatur are within 50 driving miles of each other (Figure 7.a). Local business and leisure travelers may choose to fly from different airports based on their particular destinations and price sensitivity. For instance, airports that have connections to Dallas/Fort Worth and Atlanta on American and Delta, respectively, have good connections to Latin America. Airports with good access to Chicago and Detroit have good connections to both Europe
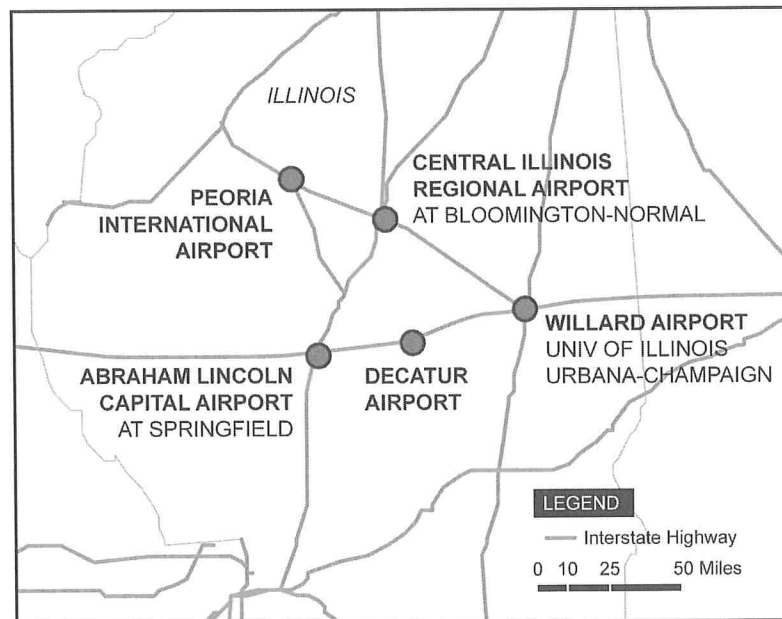
Figure 7.a.   Map of central Illinois airports.

CASE STUDY   (Continued).

and Asia. In addition, access to different connecting hubs or international gateway airports also means different connections for the major global marketing alliances—Star Alliance, oneworld, and SkyTeam (Table 7.a).

Travelers also have access to low-fare options at Bloomington-Normal (AirTran Airways) and Peoria (Allegiant Air). AirTran maintains a broad network out of its Atlanta hub to points throughout the United States.

Table 7.a.   Central Illinois region and its access to global networks.

Airport	Carrier	Destination or Gateway Airport	Beyond access to:
Bloomington-Normal	American Eagle	Chicago O'Hare	Europe, Asia, Latin America
		Dallas Fort Worth	
	Delta Connection	Atlanta	Europe, Latin America
	AirTran	Atlanta	Domestic U.S. (low-fare)
		Orlando	
	Northwest Airlink	Detroit	Europe, Asia
Champaign/Urbana	American Eagle	Chicago O'Hare	Europe, Asia, Latin America
		Dallas Fort Worth	
	Northwest Airlink	Detroit	Europe, Asia
Decatur	American Eagle	St. Louis	U.S. Domestic
Peoria	American Eagle	Chicago O'Hare	Europe, Asia, Latin America
		Dallas/Fort Worth	
	Delta Connection	Atlanta	Europe, Latin America, Asia
	Allegiant	Las Vegas	
	Northwest Airlink	Detroit	Europe, Asia
		Minneapolis/St. Paul	
	United Express	Chicago O'Hare	Europe, Asia, Latin America
		Denver	
Springfield	American Eagle	Chicago O'Hare	Europe, Asia
	United Express	Chicago O'Hare	Europe, Asia, Latin America

Source: Official Airline Guide, December 2008.

Every small community's air service development program needs to include realistic budget controls— and competitive rates and charges.

that it can effectively manage its costs and maintain transparency among all carriers, then airport costs could become a final hurdle to starting new service. Realistic budget control—translated to competitive rates and charges—should be a major goal for any small community working on air service.

Air carriers want an airport that is going to be an active partner in ensuring that service is sustainable in a small community. That is not to say that an air carrier may seek incentives that are not being offered to other carriers, but that the airport's goal should be to mitigate risk where needed while ensuring that federal regulations are met.

A plan to develop the inbound and outbound markets will also demonstrate to the air carrier partner that the airport is willing not only to support service introduction, but also to work to develop the service during potential highs and lows of seasonality, operational issues, and competitive fare threats from other air carriers. A well-targeted marketing plan for a new service at the small community will also ease the minds of an air carrier seeking to introduce a new brand into the region.

These goals may not be clearly marked in ASD strategic plans for the year but they are vital to developing supplemental assistance across other airport departments (e.g., economic development, financial, operations). A well-maintained intra-airport partnership on tourism development, fiscal planning, and long-term investment will guarantee that potential air carriers recognize the likely viability of starting new or expanded service in the community's marketplace.

What is the process for validating and refining ASD goals?

Having thought through the range of possible goals, the ASD team must assess them critically to ensure that they are realistic for its community and would be seen as realistic by the targeted airlines. Otherwise, the ASD team wastes time and money trying to achieve something that the airlines will not consider.

Proposals for new services should be reasonably within the capabilities of a community to support in a manner that will be profitable for the targeted airline. Suggesting services that the community cannot support or that cannot be flown profitably will inevitably lead to disappointment— flights that will not survive long (if implemented at all) or provide few benefits to the community and the airline. In addition, such short-lived "successes" could hinder the community when it seeks additional air service in the future because the airlines will probably ask, "Why will this route work now when it did not work before?" If your goals are unrealistic, it might be difficult to come up with an answer that the airlines will accept.

Ensuring that Goals for New Service Align with Airlines' Capabilities

Once the airport and community have determined what their top market targets are, they need to understand what types of new air service—nonstop or connecting—will best meet the needs of local travelers. In selecting airlines to target for that service, the ASD team needs to understand the types of services that the targeted airline(s) provide and make sure that they match the airport's needs. The ASD team should use other communities as a guide or benchmark; for example, what type of service does the airline provide in similar communities? A community should avoid suggesting that an airline provide a type of service that it does not provide to similar communities elsewhere. It is almost always more difficult to convince an airline to change its practices for the ASD team's airport than it is to convince the airline that the same processes that work elsewhere will also work at the ASD team's airport.

For example, US Airways announced in early 2008 that its Express operation would begin service to three Gulf Coast communities (Ft. Walton Beach, Florida; Gulfport-Biloxi, Mississippi; and Panama City, Florida) from its Charlotte hub with the same type of aircraft and with hub arrival and departure time being very similar. Furthermore, this new service was similar to existing US Airways Express flights to other cities in the region in terms of aircraft type and hub arrival and departure times.

Choosing Between Hub-and-Spoke and Point-to-Point Service

Deciding between targeting network (i.e., connecting) service and point-to-point service usually equates to a choice between legacy carrier service to a hub and LCC service to a major business center or a resort destination. Of course, that oversimplifies reality: Legacy carriers offer some point-to-point service (e.g., American from Austin to San Jose and Delta from Boston to New Orleans) while a few LCCs offer connecting service (e.g., AirTran at Atlanta and Frontier at Denver).

Nevertheless, the choice of whether to target connecting or point-to-point service will be driven by the community's air service needs. In some cases, the community may elect to pursue

A well-targeted marketing plan can alleviate concerns about bringing a new "brand" into the area that new entrant carriers would have.

both options concurrently. If the most important service deficiency is flights to a major hub airport, the solution will generally call for legacy carrier service, with the added benefit of a vast array of connecting flights at the hub. In contrast, if the primary service deficiency is to a leisure market, the most likely candidate to offer new service in that market may be an LCC or niche carrier, in part because of the legacy carriers' reluctance to offer much point-to-point service in the current operating environment.

Considering Competitive Service

When reviewing the service needs of a community's potential target market, it is important to know what competitive service is already being offered in the market on both a local and beyond basis. That is, which airline(s) offer service to the targeted destination and which airline(s) offer service to other destinations that could reasonably be flown via the targeted destination. If the community already has nonstop service in the target market, the ASD team must ensure that its market is sufficiently large to profitably support two airlines. This does not necessarily mean that the local market alone needs to be large enough for two airlines, but rather that the total traffic carried in the market will support two airlines.

Such a situation is rare in small communities. For instance, Fresno had nonstop service to Denver on United Express. Using a SCASDP grant, Fresno attracted Frontier into the market. United objected strongly to the U.S.DOT that this was an abuse of SCASDP and a waste of federal funds in a market that already had multiple daily nonstop flights. U.S.DOT took no action. Frontier's service lasted about two years, ending in June 2007.

Moreover, just because an airline agrees to initiate nonstop service to a desired target city, its success is not guaranteed. Other carriers can offer highly competitive service with through flights, online connections, and interline connections via other hubs or other markets. This situation is especially possible where potential nonstop service in a relatively distant target market will be competing against much higher frequency connecting services over one or more closer hubs.

For example, Frontier began twice-daily nonstop service between Baton Rouge and its Denver hub in mid-2007, competing against much more frequent connecting opportunities at the closer hubs of Dallas/Ft. Worth (American), Houston (Continental) and Memphis (Northwest). But seven months later, Frontier abandoned the market, overwhelmed by the multitude of flight times offered throughout the day by the three legacy carriers, along with the draw of their respective frequent flyer programs.

Understanding and Quantifying the Strength of the Market

Understanding where potential passenger traffic comes from is important. The target airline must be comfortable with the traffic forecast before it will commit its resources to add service in a new market. This traffic forecast includes the breakdown of local versus connecting passengers as well as business versus leisure passengers. There can be numerous sources for the incremental traffic such as market stimulation, shifts in airline market share, and the recapture of traffic that had previously "leaked" to other nearby airports. The target airline will want the rationale for such a traffic forecast to be spelled out clearly.

As discussed in Chapter 5, the best and most reliable source of data available to the public comes from the U.S.DOT, which receives the data from filings made by the airlines pursuant to U.S.DOT regulations. Two key data sources are the O&D and T-100 Onboard databases, which communities can use to determine whether most of the new traffic in the target market will be incremental to the target airline, even if not to the community at large. These data are available to the public through commercial vendors as well as through the BTS TranStats website (www.transtats.bts.gov).

Airports and communities also may be able to use other sources of information, such as a local economic development agency or chamber of commerce, to indicate community and business growth as exemplified by new business investment, growth in employees, and population immigration. However, this information tends not to offer details of travel in specific markets unless individual businesses share their travel patterns.

Matching Aircraft to the Target Market

Because aircraft have certain key performance characteristics such as capacity and range, the ASD team should determine what specific size and type of aircraft would meet its needs. That is, the community should understand how much and what type of capacity would be appropriate for the proposed service. Obviously airports and communities should not propose a new service with an aircraft type that cannot properly and successfully operate in the target market. Suggesting the use of an aircraft that does not fit its market needs will lower the ASD team's credibility with the airlines and lessen the likelihood of new service being started. Of course, before a team meets with a particular airline, it should be sure that the airline (or its regional code-sharing partner) operates that type of aircraft or has the aircraft on order.

Seating Capacity, Configuration, and Operating Range

To the greatest extent possible, airports and communities should try to match the seating capacity of the aircraft proposed for the target market with the expected frequencies and traffic levels once the new service is implemented. This is usually an iterative process; the ASD team will have to produce several forecasts using different trade-offs of capacity versus frequency versus departure times to determine the optimum capacity and frequency mix at the best departure time(s) to attract the most passengers to the target market.

If the ASD team believes there will be a significant amount of traffic likely to use a "premium cabin" (i.e., business class), it might suggest a two-class aircraft to serve the target market (assuming the target airline already offers such service). For example, Delta has code-sharing partners that offer two-class service with CRJ-900 aircraft (Figure 7.10). With enough premium traffic, a target market that might otherwise support three daily 50-seat RJs could perhaps be better served by two daily two-class 70-seat E170/CRJ-700 aircraft.

The suggested aircraft must also meet an airline's operating criteria. For instance, despite the manufacturer's stated range of 1,200 miles for a CRJ, United will only schedule such aircraft in

Figure 7.10. *Delta Connection CRJ-900 with business and coach class seating.*

markets up to about 1,000 miles. Knowing what aircraft will work for a given airline is very important for a community's credibility.

Number or Power Levels of Engines Required for Specialized Operations

The number or power levels of engines is most relevant for airports surrounded by severe mountainous terrain, such as Aspen or Telluride. The issue involves the ability of the selected aircraft to take off and climb in so-called "hot and high" conditions where the combination of high ambient temperatures and a high airfield elevation reduce normal engine performance and thus might limit the payload-carrying capability of the suggested aircraft.

Ensuring Airport Infrastructure Accommodates the Proposed Aircraft

The ASD team also needs to ensure that its airport infrastructure and the aircraft it may be considering for new service are compatible. Aspects of the terminal, as well as jetways, tarmac, and runway length, should be considered in the compatibility evaluation. The airlines know the infrastructure requirements necessary to handle any of their fleet types at a given airport; therefore, suggesting an operation that its airport is not capable of supporting will lower (or eliminate) the ASD team's credibility with the target airline. See Chapter 5 for additional information on assessing an airport's facilities.

Terminal

The target airline, especially if it is new to the community, will likely have a number of requirements that must be met to support any new service in the market:

The *Sacramento Bee* reported in May 2008 that airlines were upset with the plans of Sacramento International Airport (SMF) to build a $1.27 billion expansion, including a new terminal, hotel, parking garage, and people-mover tram. The newspaper reported, "The Sacramento plan doesn't do anything for Southwest Airlines except raise our costs," airline executive Ron Ricks complained. "If Sacramento goes forward with this plan, given all the other economic headwinds the (airline) industry faces, it will lead to a reduction in flights and much higher airfares." (*12*) The *Sacramento Bee* also reported that American Airlines was cutting one of its four daily Sacramento-to-Dallas flights because of what it called "substantial and unreasonable" fee increases (*13*).

- First, there must be sufficient ticket counter space available to handle the additional passengers that would be attracted to the new service without incurring significant passenger processing delays at the start of their trips.
- Second, there must similarly be sufficient baggage claim carousels (or other facilities) available to handle the new passengers and their baggage without incurring significant passenger delays at the end of their trips.
- Third, there must be sufficient gates and hold rooms available for the new passengers to board the new flights in the target market without creating undue terminal crowding.
- Fourth, there must be sufficient amenities (e.g., restaurants, shops) available to provide for the personal needs of the new passengers without overcrowding the facilities available for current passengers. Of course, amenities are not a priority for all air carriers. Some LCCs are much more concerned about lower costs than passenger amenities. Those airlines believe that most of their passengers will readily sacrifice airport amenities for lower fares.
- Fifth, there must be sufficient office space available for the target airline to handle its required on-site office functions in a private and secure manner.

In validating its goals, the ASD team must ensure that its terminal facilities are capable of accommodating proposed new service. However, that does not mean that every airport will have to build new facilities to attract new service to its target market. In fact, new facilities often cost a great deal of money, which is usually passed on to the airlines in the form of higher landing fees and facility rents—and thus can actually be a deterrent to attracting new service.

Airside

The proposed aircraft must be able to serve the target market while taking into account the runway characteristics of the airports at both ends of the route. These characteristics include runway length, runway width, runway load-bearing strength, airfield elevation, and approach and departure path obstacles. For instance, if one of the runways is relatively short (say, less than 4,500 feet in length such as at Hilton Head Island Airport or Key West International Airport), then an aircraft with strong short-field performance should be suggested to the airline. While runway characteristics will not be a contentious issue for most airports and routes, it nevertheless needs to be considered.

Summary

- ASD goals should be developed with the ongoing involvement of the community and/or a broad-based task force.
- The most common ASD goals are
  - Retaining existing service
  - Adding service to a new destination
  - Adding frequencies to current services
  - Lowering fares/introducing new competitive service
  - Improving service reliability
  - Upgrading aircraft
  - Increasing access to global networks
- ASD goal-setting should begin with incumbent airlines; retaining existing service is the top goal for most airports.
- It is critical to ensure that ASD goals are realistic in light of
  - The service airlines offer to similar communities
  - The strength of the airport's passenger market
  - Aircraft performance characteristics
  - Airport infrastructure

Santa Rosa and its Horizon Q-400s

Charles M. Schulz – Sonoma County Airport (STS) in Santa Rosa is the primary commercial airport serving the North Coast region of California. This region includes five counties with an estimated catchment area population of over one million residents.

Sonoma County Airport had a long history of commercial air service that pre-dated the industry's deregulation. In the 1990s, United Airlines served STS with its Express regional affiliates to both San Francisco and Los Angeles. Enplanements at the airport in 2000 exceeded 64,000. However, United terminated all service at the airport in October 2001. From then until 2007, the airport had no service.

Sonoma County Airport faced two significant challenges. First, the primary runway is short—5,115 feet long and 150 feet wide. Second, the community is relatively close to several larger airports with significantly more nonstop service options, including service from Southwest Airlines. Oakland International Airport, San Francisco International Airport, and Sacramento International Airport are all within roughly 100 miles of STS.

Because of its runway limitations, Sonoma County Airport was restricted to service from turboprop operators. STS successfully recruited Horizon Air to operate Q-400s at the airport. Horizon launched service in March 2007 to Los Angeles and Seattle. It has since added more frequencies to Los Angeles and Seattle, as well as new destinations—Portland, Oregon, and Las Vegas. The airport manager expects total traffic to exceed 200,000 in 2008.

Selecting Appropriate Techniques for Air Service Development

There are several types of incentives that airports and communities can offer air carriers during air service development negotiations. This chapter discusses techniques that various small communities have successfully applied and describes their advantages and disadvantages. It also includes a brief discussion on FAA's oversight of matters relating to airport rates, charges, and incentives. Finally, it discusses the conditions under which different types of ASD techniques may be appropriate.

When air carriers are deciding whether to serve a particular community, they are making business decisions about whether to commit literally millions of dollars worth of human and capital resources to a market. Decisions of that magnitude are not taken lightly. With airlines financially strained since 2001 and with the U.S. economy having been stressed by high energy costs, problems on Wall Street, and a recession, airline managements are naturally risk averse.

Except in unusual circumstances, all smaller communities will need to provide some sort of risk mitigation to attract new or enhanced service.

Communities and the airports they serve can help mitigate an airline's risk of introducing new service through various ASD techniques that either provide an assurance to the carrier that they will generate a certain level of revenue or significantly reduce some of the start-up costs involved with entering a new market or increasing the level of service at a market. Except in unusual circumstances, all smaller communities need to provide some sort of risk mitigation to attract new or enhanced service. Airlines and communities increasingly recognize that expanding the service in their market requires a partnership in which both partners share in the risk, at least initially.

ASD techniques can generally be divided into two broad categories: those designed to boost a carrier's revenue through promoting passenger demand and those designed to induce carriers to supply air service by reducing their costs. Although both can produce the same result in the carrier's bottom line, different carriers have expressed clear preferences for different types of incentives. Airports may also decide that they want to use both revenue-boosting and cost-reducing options.

What revenue-related ASD techniques are available?

Revenue-related techniques seek to ensure either that carriers generate a sufficient amount of passenger demand or that the revenue generated from the operations hits a minimum threshold.

Minimum Revenue Guarantees

Revenue guarantees are agreements that establish a target amount of revenue that a carrier will receive for operating a particular service to a particular destination over a given length of time. They may be expressed as a minimum amount that will be generated from passengers (ticket sales),

provided that the carrier meets certain operating requirements (e.g., completing 92 percent of their operations, with an on-time departure or arrival record of *x* percent). The guarantees are only paid out if passenger demand—and associated target revenues—do not materialize. The amount paid is equal to the shortfall. If the target is met, no funds are drawn down, which may actually be an indication of project success. The timing of the payouts can vary widely—monthly, quarterly, semi-annually, or annually.

Revenue guarantees should contain performance requirements on the part of the carrier. For example, while the airport or community may be ensuring that they will meet traffic and revenue targets, they in turn need some assurance from the carrier that it will meet performance and reliability requirements such as mutually agreed upon completion rates and on-time performance requirements.

Over the last few years, airports have increased the amount of revenue guarantees that they have awarded. As carriers increasingly drop service at many communities because of their ongoing financial hardships, more communities are competing to attract (and retain) air service, so the amount of revenue offered as incentives has increased.

Revenues are generally stated as a set target. For example, Rhinelander-Oneida County (Wisconsin) Airport used a SCASDP grant to provide a revenue guarantee of $492,000 to support nonstop service to Minneapolis. Rhinelander convinced Northwest Airlink to convert three of its four daily one-stops (via Eau Claire, Wisconsin) to nonstops. Because the service generated more revenue for the airline than had been expected, the airport was able to return nearly half of the revenue guarantee to U.S.DOT.

In the survey, several airports reported using some form of revenue guarantee. Few were undertaken as the only type of incentive. That is, the revenue guarantees were usually combined with other forms of incentives, such as cost or fee waivers. Federal funds were often used to support the minimum revenue guarantees, thus effectively shifting the risk of the service's possible failure to the federal government. The amounts of the guarantees ranged from $250,000 to $1.6 million. With fuel costs rising and passenger demand slipping, the study team would not be surprised if average revenue guarantees would approach $1 million.

Advantages of Revenue Guarantees

1. Carriers like them: In the survey of carriers, five out of six carriers reported that revenue guarantees were an effective means for attracting service.
2. Potentially low costs: If the project is successful, minimum revenue guarantees (MRGs) cost little or nothing. The airport serving Redmond/Bend, Oregon, won a $500,000 SCASDP grant to provide a revenue guarantee for Delta's new service to Salt Lake City, but load factors remained so high following the first 12 months of service that the airport returned the entire SCASDP grant to U.S.DOT.
3. Cash flow: Depending on how they are structured, MRGs can be paid at various times during the target period, and these pay dates can be negotiated in ways that can be more or less advantageous for a small community's cash flow. They may be paid only at the end of the agreed-upon period of air service, thus requiring no initial cash outlay.
4. Administrative ease with low administrative costs: The revenues that the contracted airline generated during the period are relatively easy to track.

Risks or Disadvantages of Revenue Guarantees

1. Despite a community's best efforts to estimate how passenger traffic will respond to new service, there are no guarantees—the airport/community can lose the entire amount. Also, depending on the source of the revenue guarantee, it may not motivate the community to use the service. The U.S.DOT Inspector General's office reported the example of a community that attracted

Pensacola's travel bank

Pensacola's travel bank was the product of a large community effort involving support from numerous community stakeholders. The Chamber of Commerce, Pensacola city officials, and airport officials conducted intensive outreach to the local community and persuaded 319 businesses to contribute $2.1 million for two years' worth of prepaid travel on AirTran Airways. The local bank involved issued each participating business a debit card to draw funds toward the purchase of AirTran airline tickets. Using their debit card accounts, businesses could purchase tickets from travel agents, the Internet, and other distribution channels. If the businesses did not spend the funds they had allocated to the account within the two-year period, the remaining funds were transferred to AirTran, and the businesses received AirTran vouchers redeemable within one year. While Pensacola passengers can fly to any of AirTran's destinations (via Atlanta), AirTran determines the flight schedule. The initial agreement stipulated that if AirTran reduced its flights to fewer than three per day, filed for bankruptcy, or sold more than 50 percent of its stock, then businesses participating in the travel bank could be released from the agreement. AirTran increased its flights from three to four in 2003. Airport officials credited the 50 percent drop in airfares along AirTran's routes for the 26 percent increase in traffic in May 2002.

In the survey of airports, few airports used some form of travel bank. When travel banks were used, they were usually combined with other forms of incentives, such as cost or fee waivers. Typical sizes of travel banks at the airports surveyed ranged from $500,000 to $700,000. However, as shown in the Pensacola example and elsewhere, travel banks can involve considerably more than $1 million.

new air service during the period of its SCASDP grant, but traffic was lighter than expected, and the carrier providing that service abandoned the market as soon as the funds were expended.

2. Carriers can be wary of them, particularly in certain markets. An official from one major legacy network carrier's regional affiliate told an air service conference in 2008 that it was not entirely supportive of MRGs for the following reason: if the carrier used all of the revenue guarantee, yet pulled out because the service was not profitable, leaving the market would create a negative brand image that would be difficult to overcome, especially if the carrier still serves the market to another hub.

3. The changing economics of the regional industry may make some efforts simply not cost effective. New Haven, Connecticut, had the unfortunate experience of exhausting the $1.6 million revenue guarantee it had assembled with the help of Yale University and other community partners. Delta accepted the revenue guarantee for RJ operations into Cincinnati. However, because of issues with New Haven's primary runway (its 5,600-foot length and airfield obstructions), Delta experienced greater than expected payload restriction that forced its CRJ-200s to operate with less than full passenger loads. Coupled with rising fuel costs, the carrier simply could not generate the revenue it needed to make the route profitable and discontinued service in January 2006.

4. Several of the surveyed airports that tried revenue guarantees commented that they seriously underestimated how difficult it would be to raise money from local sources. The concept of a revenue guarantee is attractive; however, convincing local businesses, governments, and individuals to contribute funds can be a major challenge.

Guaranteed Ticket Purchases ("Travel Trusts" or "Travel Banks")

Guaranteed ticket purchase programs effectively ensure that the target airline will have passenger traffic worth a certain volume of revenue, thus helping to mitigate some of the risk associated with attracting passengers to new or expanded service. Businesses or individuals deposit funds in a bank account that can be used only for purchasing tickets on the target airline during a given period of time.

Advantages of a Travel Bank

1. A travel bank provides an undeniable indicator to the airline of the community's commitment to use the proposed service. It is especially a commitment indicator of the business community, which often provides the greatest source of funds to the travel bank and the potential clients of greatest interest to the airlines. It is a sure sign of the underlying demand for travel from a community.

2. Travel banks or ticket trusts also help new entrants overcome other market barriers to entry, such as incumbent carriers' price cutting and the effect of the incumbent's loyalty (i.e., frequent flyer) programs.

Risks or Disadvantages of Travel Banks

1. Travel banks require a significant amount of local effort to organize and implement. For travel banks to be effective, they require a motivated business community, as well as grassroots organization, planning, and coordination. Putting together a travel bank requires a commitment of an airport staff's resources and time (or that of a consultant) to meet with community business leaders and convince them to commit to travel with the carrier during the period. Depending on how the travel bank is structured, those contributions may or may not be refundable if the travel does not actually occur.
2. Airline acceptance of travel banks is not uniform. According to a report on small community air service from GAO, most—but not all—airline officials were unfavorably disposed toward travel banks, citing the difficulty in administering them and their poor track record of success (*14*).
3. Beginning in 2005, U.S.DOT announced that it would not support travel banks for SCASDP grants.

What cost-related ASD techniques are available?

Cost-related ASD techniques are intended to eliminate or offset some of the start-up costs that carriers experience when they begin new service or enhance existing levels of service (perhaps by adding service to a new hub). Taken as a whole, the cost to begin service in a new market can be substantial. In 2003, Meadows Field (Bakersfield, California) Airport estimated that the equipment costs alone (e.g., electronics, telephones and data, furniture fixtures and equipment, etc.) associated with station start-up costs for new Continental service there approached $500,000.

Cost Subsidies (Including Start-up Costs)

Subsidies are a broad category of financial incentives that generally offset some aspect of an airline's costs of operation. Economics or business textbooks define a subsidy generally as an economic benefit (such as a tax allowance) or financial aid (such as a cash grant) provided by a government to support a desirable activity (such as exports or, in this case, air service to small communities). The basic characteristic of all subsidies is to reduce the market price of an item below its cost of production.

Subsidies can include waivers of fees or discounted landing (or other fees) during a promotional period. Cash subsidies are paid without regard to the amount of revenue that a carrier may

Redmond, Oregon's travel bank

Redmond and Bend lie in the heart of central Oregon, the fastest-growing area in the state. It is also an important vacation spot in the Pacific Northwest. The area offers a wealth of natural beauty and recreational activities, along with more than 300 days of sunshine per year. The primary airport for this region is Roberts Field–Redmond Municipal Airport (RDM).

In recent years, RDM had enjoyed healthy year-over-year increases in traffic, but the catalyst for propelling RDM's growth was the start of nonstop service between Redmond and Salt Lake City by Delta Connection (SkyWest Airlines) in 2005. Businesses and the traveling public responded positively to the new service, and passenger enplanements soared.

RDM used a travel bank to convince Delta to commence the service. Local businesses, economic development agencies, and tourism agencies deposited $629,000 in committed funds into the travel bank, with a minimum deposit of $2,000. Travel bank participants then had 12 months to use their funds or the airline retained the money. Within three months of Delta's beginning service on the Redmond to Salt Lake City route, the 120 participants had used 70 percent of the travel bank's funds.

The travel bank proved successful because the ASD team was able to secure the business community's commitment early in the process. This commitment provided immediate passenger demand on the new service, which helped mitigate Delta's financial exposure and uncertainty. In the end, Delta's service was so successful that the airport had to return the $500,000 SCASDP grant, which was never tapped. The success of that program helped RDM attract nonstop service to Los Angeles, Las Vegas, and Phoenix.

generate during the agreed-upon period. Subsidies are generally a fixed amount, often with no connection to the eventual profitability of the route. Depending on how they are structured, subsidies may require no obligation on the part of the airline to use the funds to promote the new local service. Technically, the Essential Air Service program provides a "revenue subsidy" that is designed, in part, to assure the operating carrier of a set minimum-percentage operating margin.

Examples of different types of subsidies include the following:

- **Fee waivers (e.g., landing fees, terminal rents, gates, jet bridges).** These are very common and may include waivers of landing fees and terminal rents for six months. Waivers may be for all fees or costs, or some fraction thereof. Waivers can vary depending on the size of aircraft. Charles M. Schulz – Sonoma County Airport waived terminal rents and landing fees for 12 months for Horizon Air. The airport valued that waiver at just under $100,000.
- **Ground station costs.** Airports can cover ground station costs for airlines as well, relieving them of the need to take on those costs themselves. For carriers proposing a relatively small number of operations, this can be a significant source of cost savings. (See sidebar.)

Ground station costs at Mobile, Alabama

Prior to leaving the Mobile Regional Airport (MOB) market after September 11, 2001, United Express not only ground handled its own flights to Chicago O'Hare and Washington Dulles, but also those of US Airways Express to Charlotte Douglas International Airport. Once United announced that it would leave Mobile, US Airways faced a quandary—it would be losing its MOB ground handler but did not want (or could not afford) to provide the service itself. To avoid losing its US Airways flights in addition to the United service, MOB decided to enter the ground-handling business.

MOB developed the Station Services program to provide complete ground-handling services to any carrier, current or new, that would rather not do such work itself. In addition to covering flights by a new carrier at MOB and new flights by a current MOB carrier, this program allowed simply taking over a current carrier's MOB ground-handling operation. The program was offered to all of the carriers that served MOB at that time—Continental Airlines, Delta Air Lines, Northwest Airlines and US Airways—but only the latter carrier accepted the offer.

MOB developed a program that would cover all ground-handling functions at the airport—ticket counter, baggage claim, gate and ramp services. MOB would own, operate, and staff the carrier's entire station operation, and in return the carrier would pay a three-part charge to cover the program's costs. This charge includes a per-passenger fee, a per-departure fee, and rental fees mainly for the use of ticket counters, gate areas, and baggage carousels. MOB used a $450,000 SCASDP grant to purchase equipment, hire and train staff, and set up a management system for the program.

MOB can tie Station Services into its incentives program by waiving a portion (or all) of the fees for a period of time not to exceed one year, with the amount and duration of the waiver determined by the level of new services being offered.

US Airways has used the Station Services program continuously since its inception at the end of 2001 for its three daily RJ flights from MOB to Charlotte Douglas. In addition, when American Eagle began service to MOB from its Dallas/Fort Worth hub in 2005 (replacing service that had been discontinued by Delta earlier that year), it decided to use the program as well. American Eagle continued to use the program even as it expanded its MOB service to include nonstop flights to its Chicago O'Hare hub in 2007. In March 2008, American Eagle decided to operate, equip, and staff its station and discontinue use of the Station Services program, because, with five daily nonstop flights, its level of operation allowed economics of scale to be realized.

- **Fuel into plane costs.** Some airports reported subsidizing fuel costs for new entrant carriers during a limited start-up period, up to a maximum dollar amount.
- **Staff training.** Staff training costs can be significant especially for new markets during the start-up phase. Carriers often require new employees hired locally to undergo a significant amount of training in company policies and procedures. The cost of this training—including staff time, materials, meals, and lodging—can run in excess of $100,000 depending on the number of staff to be trained.
- **Crew lodging.** New service often means that at least one crew member will spend the night in the community. Several airports surveyed had worked with local stakeholders to arrange discounted lodging for crew members.

Advantages of Fee Waivers

1. Waivers have a direct measurable effect on a carrier's bottom line. Start-up costs can be significant (upwards of $200,000), so anything that lessens those costs contributes to shifting some of the market entry risks off the carrier.
2. Waivers are easy to administer. They can be handled largely through the airport's finance or administrative office, which would be responsible for tracking operations and enplanements anyway.
3. Waivers that involve off-airport stakeholders can help unify the community in supporting air service development.

Risks or Disadvantages of Fee Waivers

1. Cost waivers by themselves will not differentiate an airport from any other airport seeking a carrier's attention. Most airlines regard some level of cost subsidy as a requirement for entering a market. Providing cost waivers is a necessary aspect of attracting new service but is only one part of an incentive package.
2. Crew lodging-cost offsets require an airport to work with off-airport stakeholders, which introduces factors outside the airport's control. Hotels may be able to offer some significant discounts (most major chains do), but this inevitably introduces incremental administrative burden.

Marketing and Advertising

Smaller communities' airports usually face significant challenges in marketing their services to the populations in their catchment area and marketing their catchment area to inbound travelers and airlines. If those efforts are less than completely successful, travelers in the airports' catchment area may fly from other airports in the vicinity. When that happens, the airlines discover that they can serve those same travelers without actually operating at the small airport. Most airlines do not advertise in small, local markets. Rather, they limit their efforts to major markets (e.g., Chicago, San Francisco, New York, Washington) and their hubs, and to promoting the brand nationally (one hears George Gershwin's "Rhapsody in Blue" and thinks of United Airlines).

Marketing is the most common form of incentive used in ASD. It is designed to build awareness for a new service and to develop demand to the point that the service can become self-sustaining. The ASD marketing incentive is most commonly advertising and promotion conducted by the airport/community on behalf of the airline's new service (for either an outbound or inbound market). Less commonly, an airport/community will provide funding to the airline to offset marketing costs; network airlines seldom do "destination marketing," focusing instead on the brand. Marketing programs may or may not require a carrier match. [Note: A separate ACRP study on marketing small communities' air service (ACRP Project 01-04) is currently in progress.]

Marketing can cover any medium—TV, radio, print (newspapers and magazines), billboards, Internet, or direct mailing. To market its Delta Connection service to Atlanta, the Lawton–Fort Sill (Oklahoma) Regional Airport hired a professional advertising firm to help

Walla Walla's experience with non-hub flying

Walla Walla Regional Airport (ALW) in southeast Washington serves a catchment area of approximately 58,000 people. The closest competing airport is Tri-Cities Airport in Pasco, Washington, 52 miles to the northwest.

Walla Walla has long been served by Horizon Air, with multiple daily flights to Seattle. In 2006, ALW used a $250,000 SCASDP grant to support Big Sky Airlines' efforts to commence nonstop service to Boise using 19-seat turboprop aircraft. The federal funds were used to pay for landing fees, pilot wages, fuel, and hotel costs. Unfortunately, the twice-daily service proved to be commercially unviable. As shown

in Figure 8.a, passenger loads were unexpectedly low. Once the federal funds ran out, the carrier terminated the service.

Airport officials reported that the experience left them somewhat disillusioned, and they were reluctant to seek service by another carrier. ALW officials felt taken advantage of by Big Sky, which exhausted the SCASDP funds and then left, creating the impression that it had not been committed to the service from the start. In contrast, Horizon has served the community for a number of years, and that commitment is rewarded by the local community.
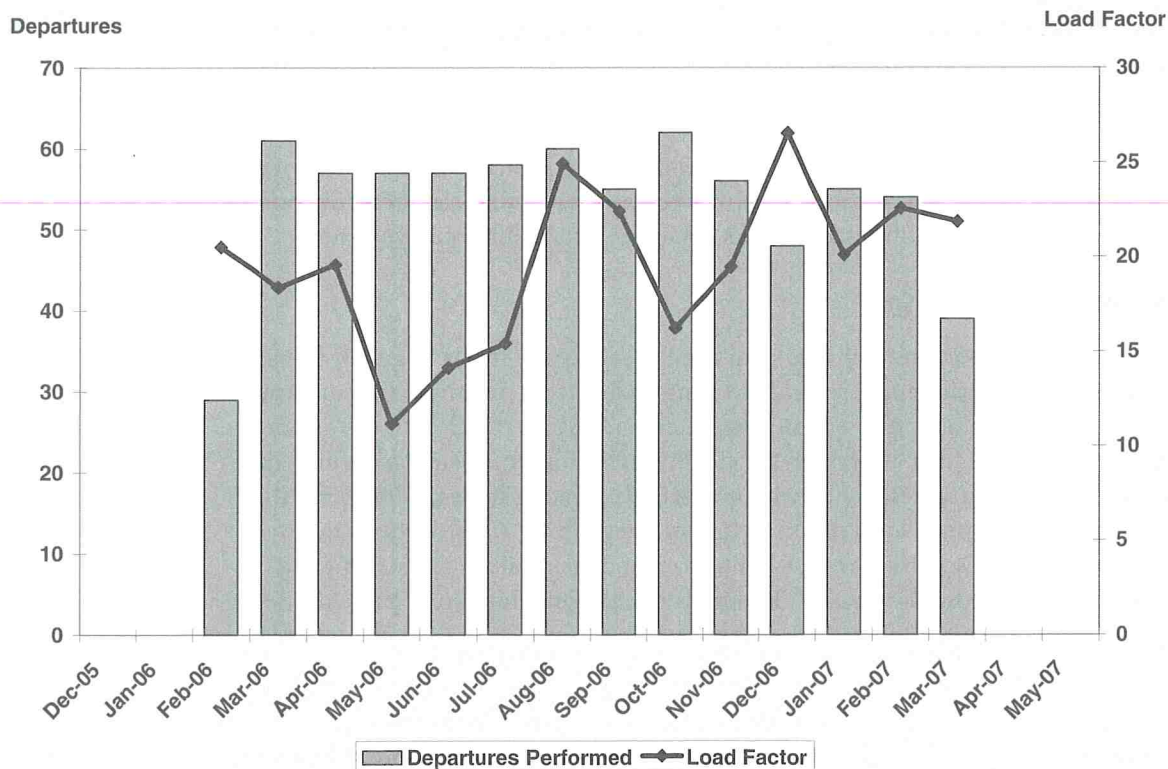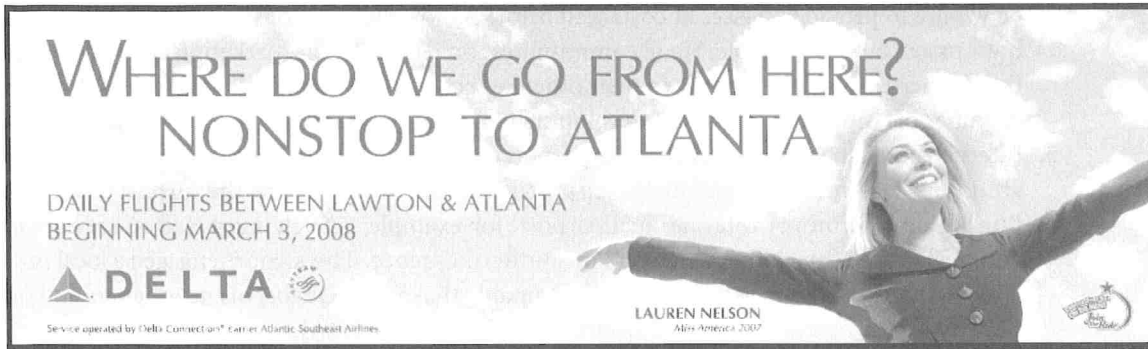

Figure 8.a. *Big Sky Airlines' service from Walla Walla to Boise lasted little more than one year.*

Source: Lawton–Fort Sill Regional Airport

Figure 8.1.   Marketing example from Lawton–Fort Sill Regional Airport.

with a marketing campaign that it used on billboards near the airport, TV, radio, the local newspaper, and the airport website. On the day service was inaugurated, the airport hosted a party that was attended by local media, various VIPs, and Delta officials. Figure 8.1 shows one of the marketing advertisements used at Lawton to promote its new service to Atlanta.

Advantages of Marketing

1. Marketing is always a good way to create awareness among the traveling public about new service.
2. Involving local advertising or marketing firms, along with the local media, as part of the ASD team or task force helps ensure some publicity for the airport's successes. Those firms also may

Internet marketing at Fargo

Hector International Airport (FAR) serves the Fargo–Moorhead area of North Dakota and Minnesota. It has long been dominated by Northwest Airlines, which has multiple frequencies to its Minneapolis–St. Paul hub. The airport has service from Northwest, United Airlines, Allegiant Air, and Frontier Airlines.

The airport gained service by Allegiant Air in 2005 and prides itself on being a contender for expanded services by the carrier. In July 2007, Allegiant announced that it would open up new bases in Fort Lauderdale–Hollywood (Florida) International Airport and Phoenix–Mesa (Arizona) Gateway Airport. FAR representatives worked closely with the airline to generate interest in the community about new potential service to both of these locations.

To help get the message out to the community about potential new service, FAR created a website, www. AllegiantAirFAR.com, where community members could vote for which destination they would like to see added at the airport. Even though the carrier would make the ultimate decision, the website became a useful tool for the Airport Authority to keep the community interested in the final selected destination. FAR representatives staged an event where they opened up a sealed box and revealed that the new destination would be Phoenix–Mesa. Two people received free roundtrip tickets as a result of their participation. Allegiant has since added service to Orlando Sanford International Airport.

This marketing tool generated additional information on the potential market prior to a route launch, was low budget and creative, and produced results. The direct link between the targeted audience and the commencement of sales on the new route benefited both the airport and airline. Both also used the event to create an e-mail list of targeted passengers for the route for future communication.

be willing to provide services at costs well below standard commercial rates. In-kind contributions can be very valuable. Small communities could leverage the marketing and public relations expertise resident in some of their other key stakeholder organizations, such as the local chamber of commerce, economic development agency, or tourism board.

3. Internet-based marketing may allow the airport or carrier to build a mailing list of people who are interested in the services at the airport based on their visits to the airport's website. Burlington (Vermont) International Airport, for example, actively marketed its services to potential French-speaking passengers in southern Quebec. The airport engaged a local professional marketing firm to put together a campaign that ran in Quebecois newspapers and on Canadian radio stations. Internet ads in French were also created. Figure 8.2 shows one such ad; a partial translation of the copy into English follows: "Our rank is high. Our fares? LOW. Much lower prices on fares compared to Canada. For more information or to book a flight, go to flyBTV.com."

In 2004, the Huntsville, Alabama's "Lower Fares" campaign directed passengers to its fly-huntsville.com website. Hits on the site increased by 417 percent. A SCASDP grant later supported the "Huntsville Hot Ticket" program. Passengers sign up for a fare alert program. That program sends e-mail alerts to customers when fare specials are announced. From the airport's web site, they can then view the fares and book tickets directly. Customers can also participate in an airport frequent flyer program that offers incentives for passengers based on number of trips.

Risks or Disadvantages of Marketing

1. Effective marketing and media campaigns require specialized knowledge that most small airports do not have in-house. Marketing is a complex topic with multiple dimensions (e.g., branding, packaging, and timing), particularly where services such as air travel are concerned. Airports may need to undertake specific types of marketing activities to create, maintain, or
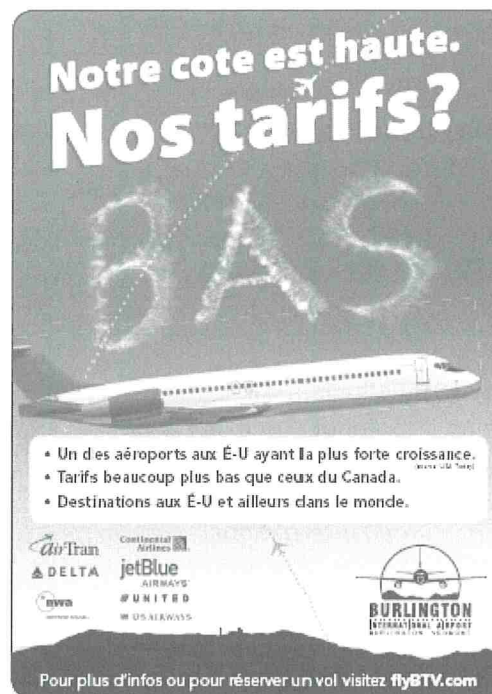
Source: Burlington International Airport

Figure 8.2.   Internet marketing ad from Burlington International Airport focused on attracting French-speaking Canadians.

alter the attitudes and/or behavior of target audiences. Developing the media campaign, determining what and where the target audience is, and ensuring the campaign reaches the target audience are all challenging tasks.

2. Because many smaller airports do not have in-house staff with all the necessary skills, resources, and capabilities to conduct effective marketing campaigns, they usually need to contract this out. Media campaigns can be costly.

3. The effects of marketing can be difficult for many communities to quantify with precision. What should be measured? What are the best metrics to use? (See Chapter 10 on evaluating ASD efforts.)

Non-Financial (in-Kind) Assistance

A community's major stakeholders—especially any involved with the ASD program—may be in a position to contribute various types of non-financial or in-kind assistance. In-kind assistance refers to products, goods, or services that otherwise might have to be paid for, but which can be donated by third-party providers instead. In the case of new air service, various types of in-kind assistance can represent a significant value for the carrier and can contribute toward creating and/or sustaining demand.

Perhaps the most common form of in-kind assistance is publicity provided by local media. This publicity can include billboards and coverage in the local newspaper. If a carrier or airport had to pay for these at full market value, the cost could be quite significant. The value to the carrier can be much more than just the cost of the advertising if it helps create or sustain demand.

Another valuable non-financial tool is reliable market information, which also can be used to reduce carriers' risks. Airline planners tend to know less about small communities than larger ones, so the amount of incentive they require to operate there has to be larger to offset the uncertainty. By funding detailed professional research and providing airlines with the type of comprehensive market analysis they require, airport operators can drastically reduce an airline's risk of making an uninformed decision and potentially a multi-million-dollar mistake. The U.S.DOT Inspector General's report on small community air service makes the same point (*11*).

Advantages of in-Kind Assistance

As noted above, involving local stakeholders—whether marketing, advertising, media, or other firms—as part of the ASD team or task force helps broaden the community's involvement and improve the odds of the service's success. Small communities could leverage the marketing and public relations expertise resident in some of their other key stakeholder organizations, such as the local chamber of commerce, economic development agency, or tourism board. Local resorts or hoteliers may also be willing to accommodate crew at a discount above and beyond those normally made available.

Risks or Disadvantages of in-Kind Assistance

In-kind assistance has very little in the way of risks and disadvantages, although airports need to be aware that they may surrender some of their control over advertising placement and content.

Getting Help from ASD Consultants

Consultants on air service development can prove to be extremely valuable for smaller airports that lack their own in-house ASD staff. Using the types of data discussed in Chapter 5, consultants can provide significant amounts of information on the industry to the airport manager, the ASD team, the airport board, and other local stakeholders. They can analyze changes in the local market over time and match that with developments in the industry. They can suggest strategies. ASD consultants also can prepare information and presentations for the airport to take to meetings

with airlines, whether at an airline's headquarters, conferences (such as the ACI–NA JumpStart conference), or other meetings.

Advantages of ASD Consultants

1. Compared to the staff available at many airports, ASD consultants have the advantage of working on these issues all the time. That means that they are familiar with available data and maintain regular communication with their airline contacts. They are current on industry trends and conditions, and some also have extensive contacts in Washington (e.g., at U.S.DOT, FAA, and the Department of Homeland Security; with Congress; and with various industry trade groups such as AAAE, ACI-NA, and RAA).
2. Because they tend to be more removed from your local situation, ASD consultants can be "objective brokers" capable of providing straight answers to local political leaders. Elected officials do not always like to hear opinions from airport officials, but the same message from a third-party expert carries a different weight.
3. Consulting firms bring flexibility that a full-time staff does not. They can be hired for specific tasks or retained on an "on-demand" basis—used only when their services are needed. Many airports retain ASD consultants on an on-call basis using multi-year contracts with an annual dollar maximum.

Risks or Disadvantages of ASD Consultants

1. Because they may not be local to the airport, consultants may not be as familiar with local developments as airport staff. They should spend some time becoming and staying personally familiar with the community and its changing needs.
2. Hiring consultants means incurring out-of-pocket expenses rather than using internal resources. Costs associated with consulting can vary widely, depending on the scope and depth of services being purchased. In addition, consulting firms vary considerably in their size and scope of services, from larger multi-national firms to smaller, local firms. In addition, costs will vary depending on the service the airport might be purchasing—whether a leakage study, a route analysis, some basic data on service at the airport over time—and whether the consultant will be expected to accompany airport representatives to airline meetings.

What are the legal issues regarding airport incentive programs?

Several of the airports surveyed reported that they were concerned whether various types of incentive programs would comply with FAA guidance and requirements. Airports and the communities they serve need to understand the restrictions on how certain funds can be used for ASD efforts. These topics are complex and cannot be covered comprehensively in this guidebook. This guidebook can provide only general guidance. Consultation with the FAA or an aviation attorney should be sought for answers to further questions.

Legislative Requirements

Airport incentive programs must be consistent with various legislative and regulatory requirements, most notably:

- Title 49 United States Code, section 41713, broadly prohibits any public organization from enacting laws, rules, or regulations that affect the price, route, or service of an air carrier.
- Title 49 United States Code, section 47107, requires that the airport be available for public use *on reasonable conditions and without unjust discrimination,* and air carriers making similar use of the airport be subject to *substantially comparable charges.*
- Title 49 United States Code, section 47133, prohibits the use of airport revenues generated on site from being used for anything except the capital or operating cost of the airport.

In addition, as a condition for accepting federal funds, airports must also abide by particular grant assurances. Among those is the requirement that airports must not discriminate economically among users. Airports must be made available for public use on reasonable terms and without unjust discrimination to all types, kinds, and classes of aeronautical activities.

FAA Policies

The FAA's policies toward using airport revenues to fund incentive programs are also articulated in two major policies.

Revenue Use

The "Policy and Procedures Concerning the Use of Airport Revenue" (*15*) makes specific reference to using airport revenue as part of an incentive program. Under this policy:

- Expenditures for promoting an airport, promoting new air service and competition at the airport, and marketing airport services are considered legitimate costs of an airport's operation.
- Cooperative airport–airline advertising of air service, with or without matching funds, is acceptable if there is no "unjust discrimination" regarding access to the airport.
- Airport revenues also can be used to pay a share of the costs for other advertising and promotional activities, such as regional or destination marketing, if those materials include a specific reference to the airport.

Paying direct subsidies to airlines from airport funds raises questions under the revenue-use requirement. However, the FAA does not preclude other community organizations—such as chambers of commerce—from funding a program to support new air service.

Rates and Charges

The "Policy Regarding Airport Rates and Charges" (*16*) lays out the major principles that guide airport operators, including the following:

- Rates, fees, rentals, landing fees, and other "aeronautical fees" must be *fair and reasonable.*
- Aeronautical fees may not *unjustly discriminate* against aeronautical users or user groups.
- Airport proprietors must maintain a fee and rental structure that in the circumstances of the airport *makes the airport as financially self-sustaining as possible.*

Evaluation Factors for Incentive Programs

In general, there are several key factors that the FAA may examine when reviewing an incentive program against the statutes.

Common Source or Management of Funds

The FAA's ability to exercise its statutory authority depends on whether the incentive program originates with the airport authority or an entirely separate legal authority and whether the funds used to support the incentive program are derived from airport revenues.

If an airport is a municipal entity, any incentives offered by both the airport itself and the municipality may be considered to emanate from the same fundamental source. In this situation, the funds may be perceived to be fungible among municipal accounts, and generally under the control of a common entity. For example, if a municipal airport and the municipality's economic development agency cooperate to jointly fund and manage an incentive program, the FAA's authority reaches to that program.

If incentive programs originate with the airport/municipality and a separate legal authority (e.g., the state, a local business group, or the chamber of commerce), then the FAA's authority does not reach to the latter source. Those incentive programs would be beyond the FAA's reach.

However, the FAA believes that there needs to be clear separation of the management of such incentive programs. Where airport employees actively manage or oversee the incentive program on behalf of the local business group, the FAA may find that the independence of the airport/municipality from the business group is blurred.

Timeframes

The maximum length of an incentive program is ambiguous, perhaps intentionally so. One year is clearly acceptable. In some cases, 18- and 24-month programs might also be acceptable. Incentives funded at least in part by SCASDP may last for up to three years. Incentive programs should have defined "start" and "end" times.

Dollar Limits

Incentives can be limited by total dollar amounts, where the funds are available until exhausted. Likewise, a program can be structured so that the incentives are available on a first-come, first-served basis (open to all or to a limited number), where the program ends when the funds run out.

New Entrant versus Incumbent Carriers

Subsidies for new entrants are acceptable for one year to mitigate the risk of entering a new market. After that first year, the carrier is no longer considered a "new entrant" *per se,* but an incumbent. All incumbents are to be treated the same (under the "without unjust discrimination" clause noted above).

Low-Cost Carriers versus Legacy Network Carriers

Incentive programs cannot be specifically directed to LCCs, nor can they specify that only legacy network carriers are eligible. Programs have to be offered on a non-discriminatory basis. Similarly, programs may not specify limits to airfares that would be offered by qualifying carriers.

Capacity, Frequency, and Aircraft Types

Incentive packages may require recipients to provide an increase in capacity in particular markets but cannot specify the equipment type (e.g., B-737, CRJ 700). Similarly, programs can require increases in capacity, but should not be written in such a way that only one carrier using one type of aircraft would qualify. Incentives can vary based on incremental increases in capacity.

Incentives can be differentiated based on broad "bands" of aircraft capacity. For example, an airport could provide a certain amount of money (n) for a doubling of capacity in a given market or half that amount ($n * 0.5$) for an increase of 50 percent in capacity in the same given market.

The FAA does not favor incentives that would support an increase in aircraft size if the carrier's total capacity in a given market would decrease. For example, an incentive should not be used to support two daily operations with a 70-seat RJ (totaling 140 seats) replacing three daily 50-seat RJs (totaling 150 seats).

Likewise, incentives should not support operations by larger aircraft (e.g., one 128-seat B-737-700) replacing two smaller aircraft (e.g., 50-seat CRJs). Total capacity in the market may have increased, but it did so at the cost of frequency.

Markets

Markets are defined by airport pairs, not city pairs. Incentive programs can specify needs to serve high-priority markets, and incentives can be provided to carriers willing to serve those markets, *even if another carrier is already serving that market on a nonstop basis.* This is consistent with FAA's policy to support competition. Incentives also can be used for both domestic and international service.

Clearly, FAA policies and actions on airport incentive programs are topics that could fill their own guidebook. The study team cannot claim to offer unambiguous legal guidance on the topic. Questions should be directed to the FAA's Airports Compliance Division or an aviation attorney.

Which techniques should the airport use?

There is no easy answer to the question of which technique(s) a particular airport should use in approaching ASD. As this guidebook has attempted to illustrate, there are numerous factors that the community should weigh in making this decision. The two remaining factors to be discussed are the preferences of the air carrier(s) the community is targeting and what has worked in similar communities.

Every air carrier has certain preferences regarding incentives. That is information that the community (or its consultant) needs to understand when considering meeting with an air carrier. At an air service conference in 2008, an official from American Eagle offered one way to look at the range of incentives. As shown in Figure 8.3, his award-themed hierarchy built on the most basic, fundamental types of incentive offers: fee or cost waivers (a "bronze medal"). The value of the incentive rose to a "platinum medal" for a revenue guarantee. The different levels also reflect the amount of risk that the community is willing to share.

Techniques Used by Other Airports

Each of the ASD techniques discussed has been used by one or more of the airports surveyed. As shown in Figure 8.4, the most commonly used ASD techniques are marketing techniques, used in an effort to promote new air service to the community and to address problems with passenger leakage to other airports. Most airports also provide direct subsidies to reduce carriers' costs. Most also have hired ASD consultants to provide some analytic and presentation support.

About half of the airports surveyed used minimum revenue guarantees. Interestingly, more non-hub airports than small hub airports used MRGs. This situation likely reflects those communities' recognition that they need to share in the carriers' financial risk of serving smaller markets.

Conditions Where Minimum Revenue Guarantees Might Be Effective

Evaluations of revenue guarantees have been cautiously positive. The U.S.DOT Inspector General noted that, of all types of incentives reviewed, revenue guarantees tended to be the most successful (11). The Inspector General also pointed out that revenue guarantees were much more successful when applied to the introduction of new service rather than the expansion of existing service.
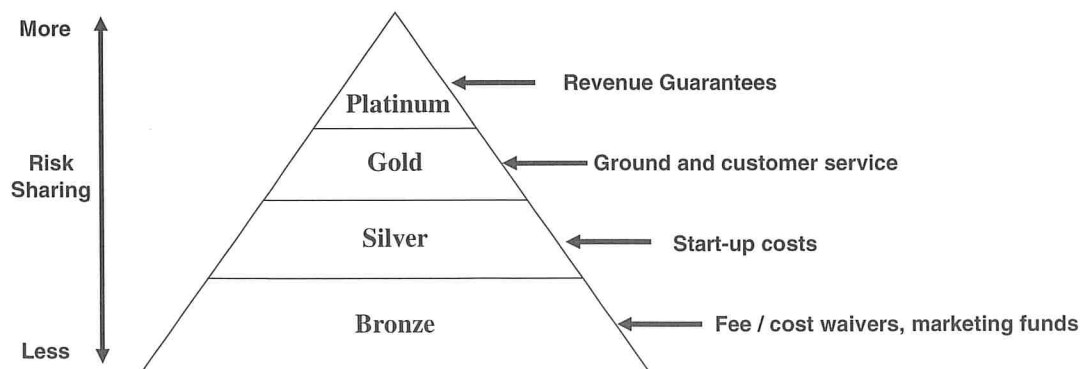

Figure 8.3. *Differing levels of incentives reflect different levels of risk sharing.*
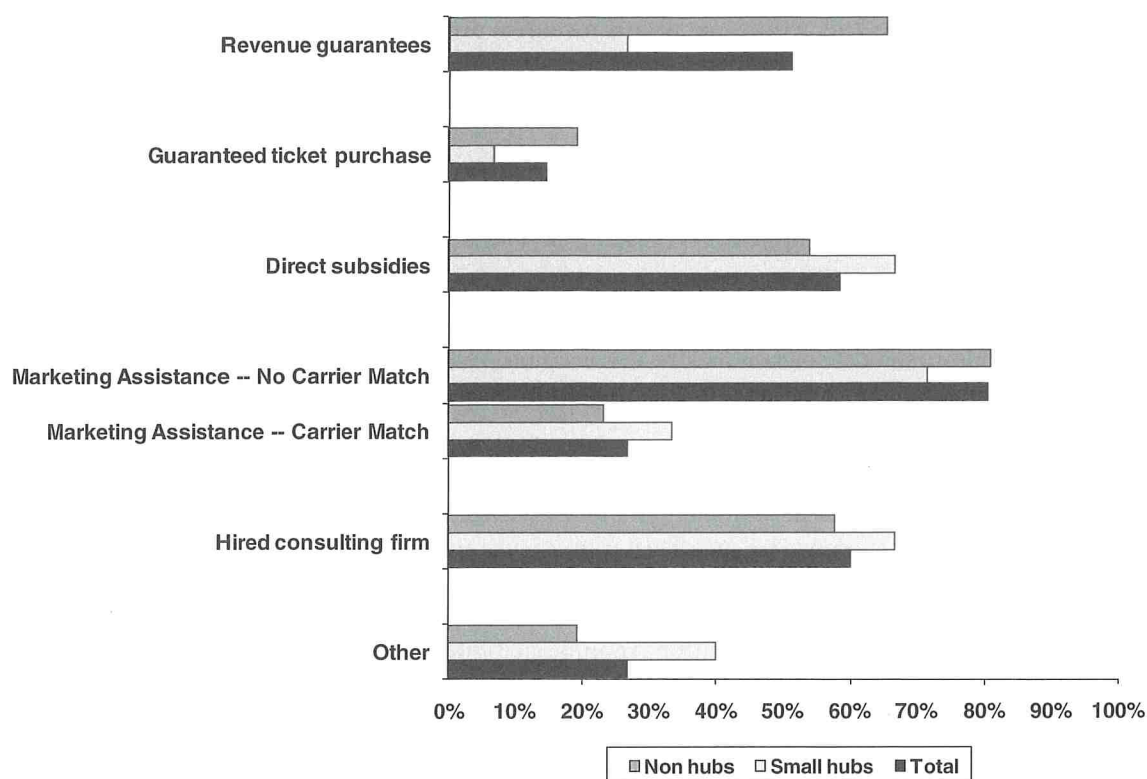
Figure 8.4.   ASD techniques used by small airports.

Industry officials believe that revenue guarantees can be used more effectively to target service from a true new entrant into a market rather than supporting new service from an incumbent (e.g., service to a new hub to improve directional passenger flow).

Recall that the amount of funds needed to support a revenue guarantee has increased significantly over time. It is not uncommon now for airports to offer $1 million in guarantees, depending on the airline, aircraft type, frequency, and destination (stage length) at issue.

Conditions Where Guaranteed Ticket Purchase Programs Might Be Effective

The primary goal of the travel bank is to overcome certain barriers to entry and reduce the time it takes for a new entrant carrier into a market to break even. The key barriers to entry in small markets are usually marketing related. Key barriers include name/service/brand awareness and the established frequent flyer base that incumbent carriers have. Incumbents also may have purchase agreements in place with major local employers. Because the travel bank contract with individual businesses usually includes a "use it or lose it" provision, early use of travel bank funds (i.e., ticket sales) is promoted. A consultant with experience in travel banks noted that 80 percent of travel bank funds are typically used in the first three months of service.

For travel banks to succeed, the local economy must be solid or the community will be focused on more pressing issues. In addition, because travel banks are a business–airline proposition, the business community needs to have a sense of urgency about air service. If the business community is well organized and has that sense of urgency, it can create a travel bank. Organizing the travel bank also requires a local "champion." Travel banks have typically been organized by chambers of commerce or economic development councils, but they still need strong individual leadership

to make them work well. Getting businesses and individuals to put their money behind an airline is a tricky task.

Conditions Where Cost or Fee Waivers Might Be Appropriate

Cost waivers are always appropriate when trying to attract service from a new entrant or to introduce service that would require local passengers to change established travel patterns. As noted previously, airlines consider subsidies to be prerequisites for new entry into any markets where the profitability of a service is uncertain. This is a simple matter of risk-sharing between the airline and the community. Airports and communities must be ready to offer cost waivers of 6 to 12 months to offset the carrier's risk.

Subsidies may also be considered appropriate in cases such as inbound charter operations, in which a local tourism development agency may wish to subsidize a loss-making air service, knowing that the subsidy amount will be made up for with additional tourist spending.

Conditions Where Marketing and Advertising Might Be Appropriate

In its analysis of the SCASDP, the U.S.DOT Inspector General noted that airlines operating in small communities typically have limited resources to invest in marketing designed to stimulate demand. The Inspector General reported that using funds for marketing programs in support of other programs like revenue guarantees or cost subsidies can stimulate demand by increasing awareness and reversing leakage.

Using ASD funds for marketing without other efforts may not be as effective. That is difficult to say with certainty, however. Huntsville (Alabama) International Airport and community believe that enplanements and revenue increase each time they undertake a new media effort. Huntsville has relied extensively on various marketing campaigns over the years to combat traffic leakage to Birmingham, Alabama, and Nashville, Tennessee. All three cities are located on the same interstate highway, which provides easy access for Huntsville passengers to drive to alternative airports. Huntsville is located approximately 100 miles north of Birmingham and 120 miles south of Nashville. Huntsville devoted $100,000 to its "Rocket City to Motor City" campaign announcing new service to Detroit on Northwest Airlink in 2002, $50,000 to announce new nonstop service to New York on US Airways in 2003, and $100,000 to support its "Say Hello to Lower Fares" campaign.

Conditions Where Consultants Might Be Appropriate

Almost without exception, the air carriers surveyed as part of this study agreed: smaller community airports should retain a knowledgeable ASD consultant. The well-known air service consulting firms in the United States all have staff with airport and airline experience. They understand how airlines make decisions in markets; they are familiar with the information that airlines want to see; they have contacts at most if not all of the airlines that serve smaller communities; and they have experience in analyzing markets realistically. These firms also have conducted leakage surveys, and they've worked with community stakeholder groups. They speak the language of air service development on a daily basis.

Another option is to engage ASD consultants for only certain aspects of an ASD effort, such as completing leakage studies or route traffic and profitability forecasts. Using consulting firms is almost always appropriate if airports do not have the data and analytic expertise available in-house. For most smaller communities, that is usually the case.

Techniques Peer Airports Have Used

Tables 8.1 and 8.2 indicate what percentage of the 41 airports that participated in the project survey applied various ASD techniques. Table 8.1 shows what percentage of airports applied the ASD technique to the major underlying competitive problems that the airports identified. Table 8.2

Table 8.1. Percentage of respondents who used ASD techniques to address their air service problems.

Identified Air Service Problems	Revenue Guarantee (%)	Travel Bank (%)	Cost Subsidy (%)	In-kind Contributions (%)	Hired Consultant (%)
Fares too high	61	14	71	46	71
Lack of an LCC	56	17	72	28	72
Service unreliable	67	17	56	44	50
Top destinations not served with nonstop flights	50	17	67	28	72
Circuitous flights	89	11	78	44	56
Difficult connections at hubs	80	13	80	53	67
Service not with mainline (i.e., large) aircraft	63	25	88	50	50
Service not with RJ	86	29	71	36	57
Inadequate capacity	65	29	82	41	65
Other	59	18	47	35	53

Total respondents = 41

shows what percentage of airports applied the ASD technique in an effort to advance their highest priority ASD goals. Basic "marketing and advertising" were excluded as one of the ASD techniques, because virtually every airport applied some form of marketing and advertising—TV, radio, print, promotions, billboards, and/or Internet. For example, Table 8.1 shows that, of the airports that regarded inadequate capacity to be one of their key air service problems, 29 percent used a travel bank to try to attract new service. Similarly, Table 8.2 shows that, of the airports that regarded service to a new hub as one of its top priorities, 13 percent used a travel bank.

As noted with each of the ASD techniques described previously, there are numerous examples of airports that achieved their objectives of retaining their existing service, lowering pricing, increasing frequencies, or adding service to a new hub or location. For example, Lawton–Fort Sill Regional Airport is an example of an airport that has successfully implemented a revenue guarantee to support service to a new hub.

Obviously, just because a technique might have worked at one location—for example, Redmond, Oregon's successful use of travel banks or Daytona Beach's success with revenue guarantees—does not ensure that it would work at any given airport. Each airport's situation is different. Fundamental economic conditions have certainly changed now compared to when these airports planned and implemented their ASD efforts. Further, just because an airport was successful with one ASD technique does not necessarily mean that the airport would not have achieved the same result with a different technique.

Table 8.2. Percentage of respondents who used ASD techniques to advance their air service goals.

Highest Priority ASD Goals*	Revenue Guarantee (%)	Travel Bank (%)	Cost Subsidy (%)	In-kind Contributions (%)	Hired Consultant (%)
Retain existing service	59	18	68	45	64
Lower pricing	58	17	58	42	75
Improve reliability**	50	17	17	0	50
Need to upgrade service**	0	50	50	50	50
Add frequencies	46	15	62	46	69
Add service to a new hub	80	13	80	53	73

*Goals limited to those identified by airports as being their first or second priority.
**Fewer than 10 airports identified these goals as among their first or second priority.

Summary

- There are no guarantees in air service development, especially when economic conditions are as volatile as they have been in the past several years. One clear trend has emerged with how airlines provide service to small communities: carriers now see those communities as true partners in the success of the service and require them to participate in the financial risk of deploying the aircraft and crews on new services.
- In return, communities should remember that an airline's commitment of expensive aircraft and well-trained crews is just as much of an investment in their community as a manufacturing plant of similar value, and it should be supported accordingly.
- ASD techniques are the principal ways in which communities share in the financial risk. As they escalate in complexity and financial participation, they also tend to increase in the extent to which carriers appreciate them.
- Many smaller airports likely need professional assistance from ASD consulting firms to assist them with various types of analyses in support of these efforts. There are many different ways to work with consulting firms, not necessarily all expensive.
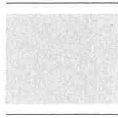
Making a Compelling Case to Airlines

Communities and airports are often convinced that their region will "obviously" support new service. How they go about communicating that belief to airlines—which are naturally skeptical of any uncertainty—can substantially influence the carrier's decision to operate there. Having defined their goals, identified resources, involved stakeholders, selected ASD techniques, and built the business case, the task now is to communicate the results in a compelling manner. This chapter discusses some ways in which ASD teams can approach this near-final step.

What should ASD teams and communities expect?

Just as it takes time for a community to prepare its ASD analysis, it can also take a long time to successfully make the case to an airline. It can even be a multi-year effort. Communities and stakeholders need to understand that the airlines are making decisions about where and how to deploy assets worth millions of dollars. Their planning horizon is relatively long, and decisions to move assets involve complicated financial and operational assessments. Decisions to add or expand service are not made lightly or hastily.

Airlines frequently revise their rankings of cities to add to (and often subtract from) their networks. Airports have several opportunities throughout the year to present their cases to the airlines. Besides meetings at airline headquarters, airports have the chance to make their case to the carriers at several industry events throughout the year. Presenting your case to the airlines is not a "one-shot deal." Moreover, presentations will differ depending on the nature of those meetings (e.g., industry conferences or headquarters meetings) and whether the target airline is an incumbent or new entrant.

What information do other airports present to airlines?

In the survey of airport officials, the study team found that most airports presented basically the same types of information to airlines. As illustrated in Figure 9.1, almost all airports surveyed reported that they presented a "business case" to targeted airlines. Small hub airports consistently tended to present more information than non-hub airports.

What data and information do the airlines want to see?

Virtually all U.S. airlines have O&D, departure, and enplanement data that are at least as detailed and timely as anything that an airport can provide to them. Thus, the airlines are less interested in this readily available data. What they really want to see is information that they do not usually collect or to which they do not have easy access. This could include items such as local
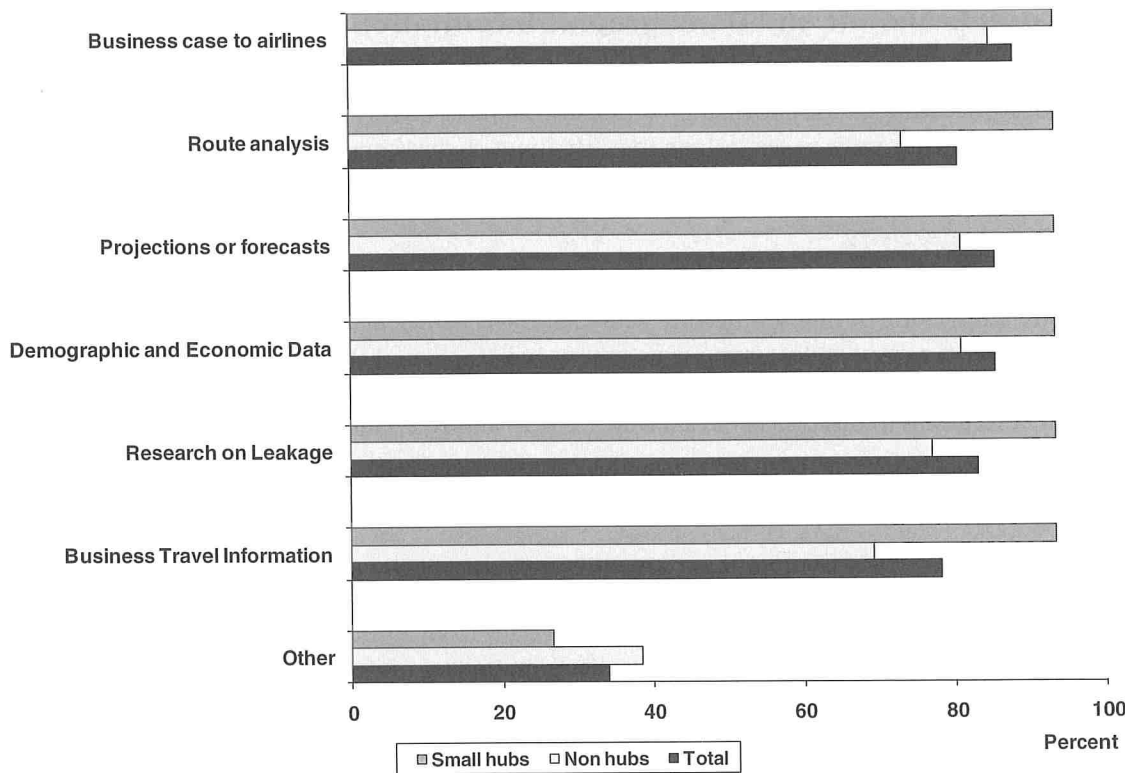
Figure 9.1.   Information that airports present to carriers.

economic and demographic data, details about local businesses and their travel habits, information about local civilian and military government facilities, and local tourist attractions that drive inbound leisure traffic.

The survey asked airlines about what mattered to them when examining small markets for new or additional service. They identified their highest priorities from a flight-scheduling and route-planning perspective, as shown in Figure 9.2.
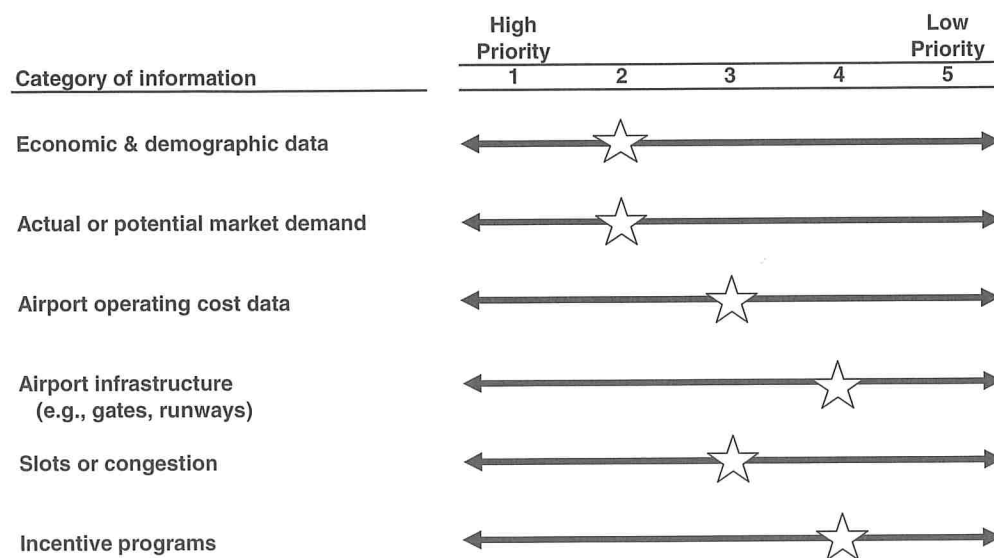
Airlines want to see information that they do not usually collect or to which they do not have easy access.

Figure 9.2.   The kinds of information carriers are interested in according to survey results.

Local Economic and Demographic Information

Airlines gather and analyze significant amounts of data, but they generally do not have in-depth demographic information on smaller markets. Some of the demographic data that the airlines usually want to see include specifics about changes in population, population density, average household income, and effective buying income.

Business Activity

The most important information about a community that most airlines want to see is the strength of local businesses together with their travel habits. Because business travel is the most desirable (i.e., profitable) component of the overall travel market for all of the legacy carriers and many of the LCCs, it is clear why this type of information is so valuable to them. Of course, there are exceptions to this concept as a few LCCs focus almost exclusively on leisure travel.

The most important business information that a community can supply to the airlines includes the following:

- The names and descriptions of the community's largest and most prominent businesses
- Total employment at each of those businesses
- Inbound and outbound travel demand, especially to an airline's hubs and major cities
- Travel patterns of particular businesses/corporations
- The ratio between domestic and international travel in the aggregate as well as for individual businesses
- Information on existing corporate contracts and the willingness to enter into new contracts with the target airline
- Business feedback about the quality and desirability of current service
- The availability of financial support from the business community
- The existence of a business-backed airport support organization (such as an ASD task force)

If the proposed new market is heavily oriented toward business travel, it is valuable to highlight the potential business travel patterns between both endpoints of the route. For example, a company that is headquartered near the ASD team's airport and has a large office or plant near the airport being targeted for nonstop service presents a compelling business synergy.

Tourism

Tourism information also can be useful to the extent that it details potential support from major tourism organizations. The most important tourism information that a community can supply to the airlines includes the following:

- The names and descriptions of the community's largest and most prominent hotels and resorts
- The number of rooms and the number of annual conventions at those hotels and resorts
- The names and descriptions of the community's largest and most prominent tourist attractions
- The inbound travel demand for those attractions, especially the ratio between domestic and international demand
- The names and descriptions of the community's largest and most prominent members of the local convention and visitors bureau
- The availability of financial support from the tourism industry

For example, Hailey, Idaho, near the famous Sun Valley ski resorts, used a SCASDP grant to win service from Horizon Airlines to Los Angeles. After the grant expired, a local resort funded a minimum revenue guarantee to Horizon. Horizon now offers the service without a grant guarantee. In addition, the grant helped convince Horizon to add another flight to a new destination—Oakland, California.

Government and Military

The government and military component of a local economy tends to have a relatively lower impact on most communities' travel demand than business and tourism components, but it generally tends to be fairly steady in volume. The most important government and military information that a community can supply to the airlines includes the following:

- The names and descriptions of the community's largest civilian and military facilities
- The staffing levels at both types of facilities
- The growth plans at those facilities, including the impact of the government's military base realignment and consolidation process
- The government- and military-related corporate inbound travel
- The government and military outbound travel to other facilities and bases, especially to an airline's hubs and major cities

Some communities such as Norfolk (see Figure 9.3) can have a large number of military and government installations in their areas, which can contribute to substantial demand for air service.

Actual or Potential Demand

Airlines the study team spoke with were quite clear: the most important information concerns the actual or potential demand at a community. While these data are generally available to the
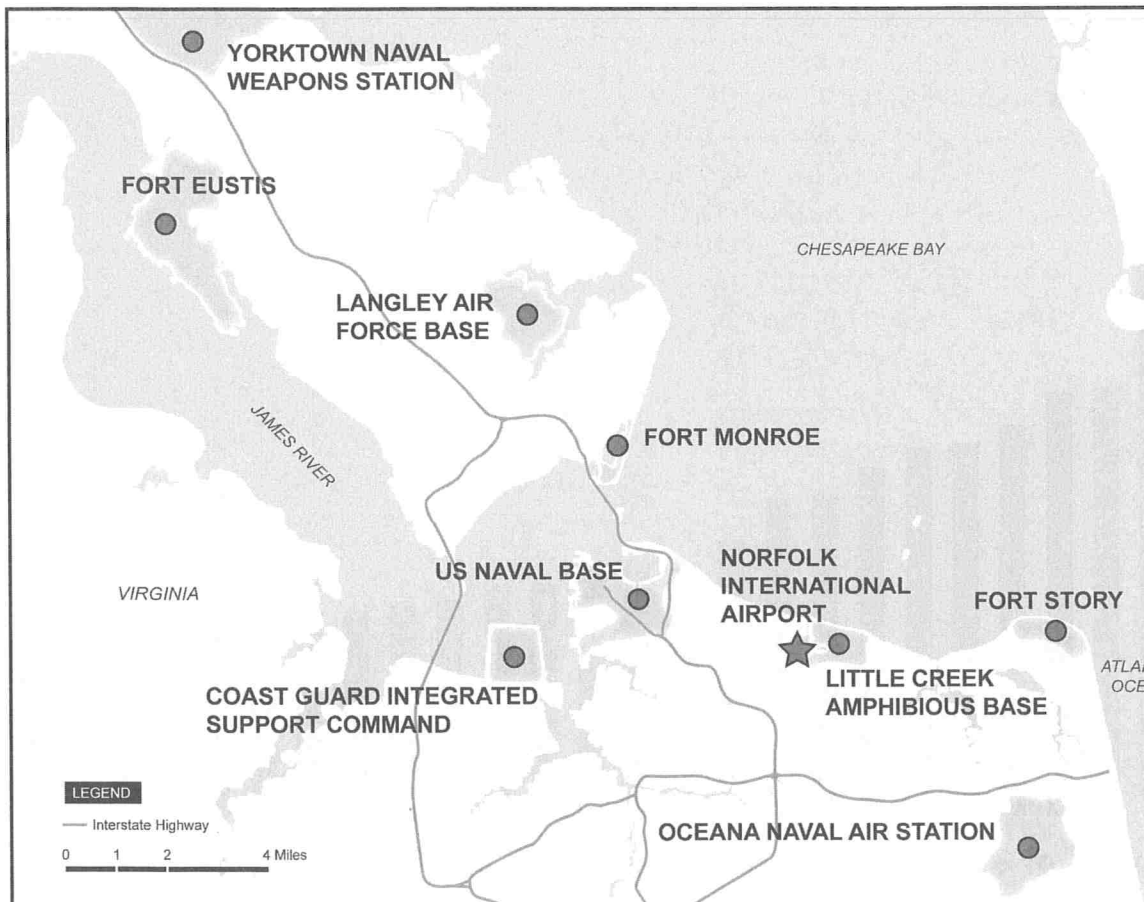

Figure 9.3.   Norfolk is surrounded by government and military installations.

airlines, communities and airports need to present this type of data to a target airline in the most favorable way. Doing so will give a target airline a better understanding of the airport's overall service levels and indicate how a target market fits in with the airport's other service offerings. Four primary statistical areas should be covered: current service, current O&D market rankings, current onboard data, and passenger seasonality.

Current Service

These statistics will provide a target airline with (1) the number of airlines currently operating at the airport; (2) the total number of destinations served, both domestic and international; (3) the number of flights offered by destination and by airline; and (4) the aircraft types flown in each market.

Current O&D Market Rankings

These market-specific statistics (see for example Figure 9.4) will provide a target airline with O&D rankings by route and by airline. The rankings can be based upon any number of items, such as airport name, airport code, passengers, passengers per day each way (PDEWs), revenues, average fares, and yields. Multi-quarter or multi-year trends for any of these items can also be shown.

Current Onboard Data

These operational statistics provide a target airline with data by route and by airline. The data can be sorted based upon any number of items, such as destination airport name, airport code,

**O&D Passengers
Per Day Each Way**
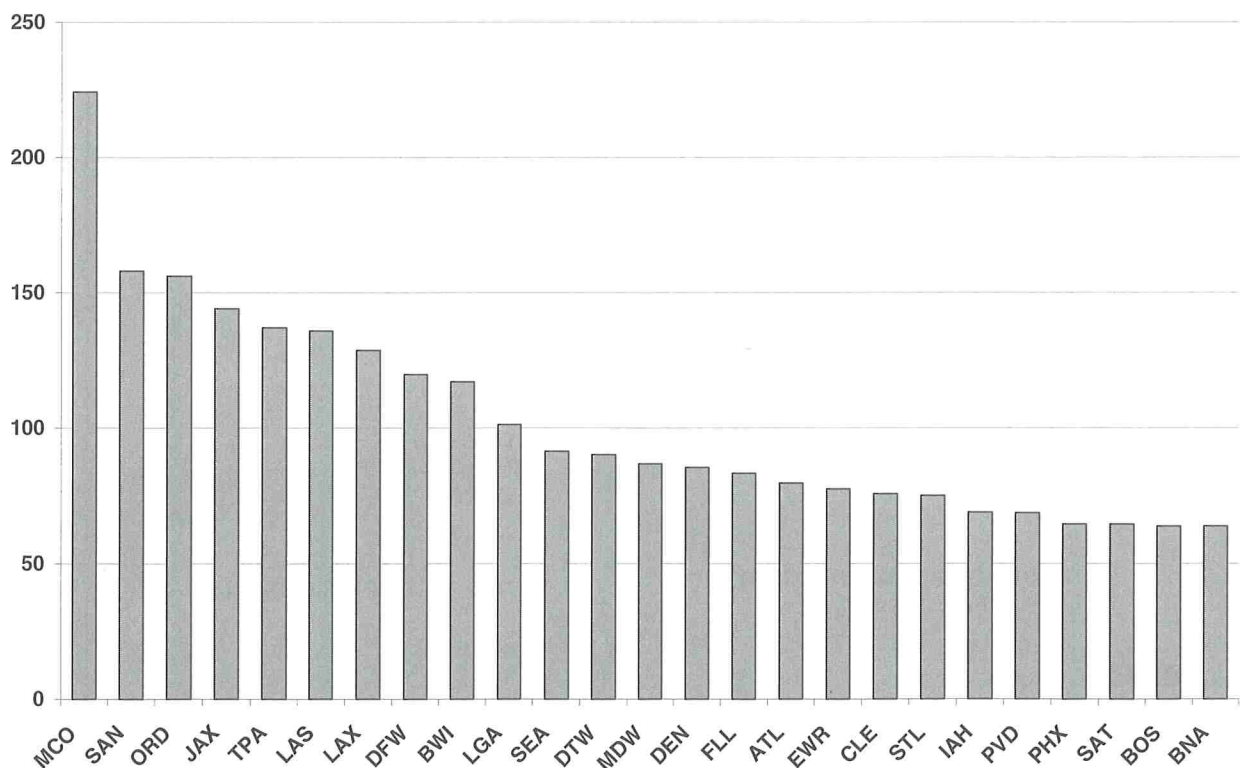
Note: Data are for the 12 months ending March 2008.

Figure 9.4.   Example of top 25 O&D markets for Norfolk, Virginia.

passengers, departures, RPMs, ASMs, and load factor (see Figure 9.5). Multi-month, multi-quarter, or multi-year trends for any of these items can also be shown if important long-term trends can be established.

Passenger Seasonality

These statistics will provide a target airline with month-by-month variations in passenger totals. The information is useful in helping suggest any possible needs to change service levels in a target market during the year to reflect seasonal variations in passenger figures. This analysis can be performed using either onboard data or airport enplanement data. (See Figure 9.6.)

Airport Costs

Airport-related costs are one of the most important elements of a proposal for the airlines. Airlines need to know what costs they will incur at an airport in order to better match revenues to expenses. In addition to the absolute costs, your airport also needs to provide information on cost trends and benchmarks against competing airports.

Target airlines usually want to understand the cost trends at your airport. These trends are influenced by many factors including national and even international events, as well as those factors more specific to individual airports, such as passenger enplanements, concession income, other airport rental income, federal and state grants, and borrowing costs. It is also important that the target airline be aware of an airport's plans that would impact its cost levels, most likely to cover terminal and runway expansion, or both. At both current and projected airport cost
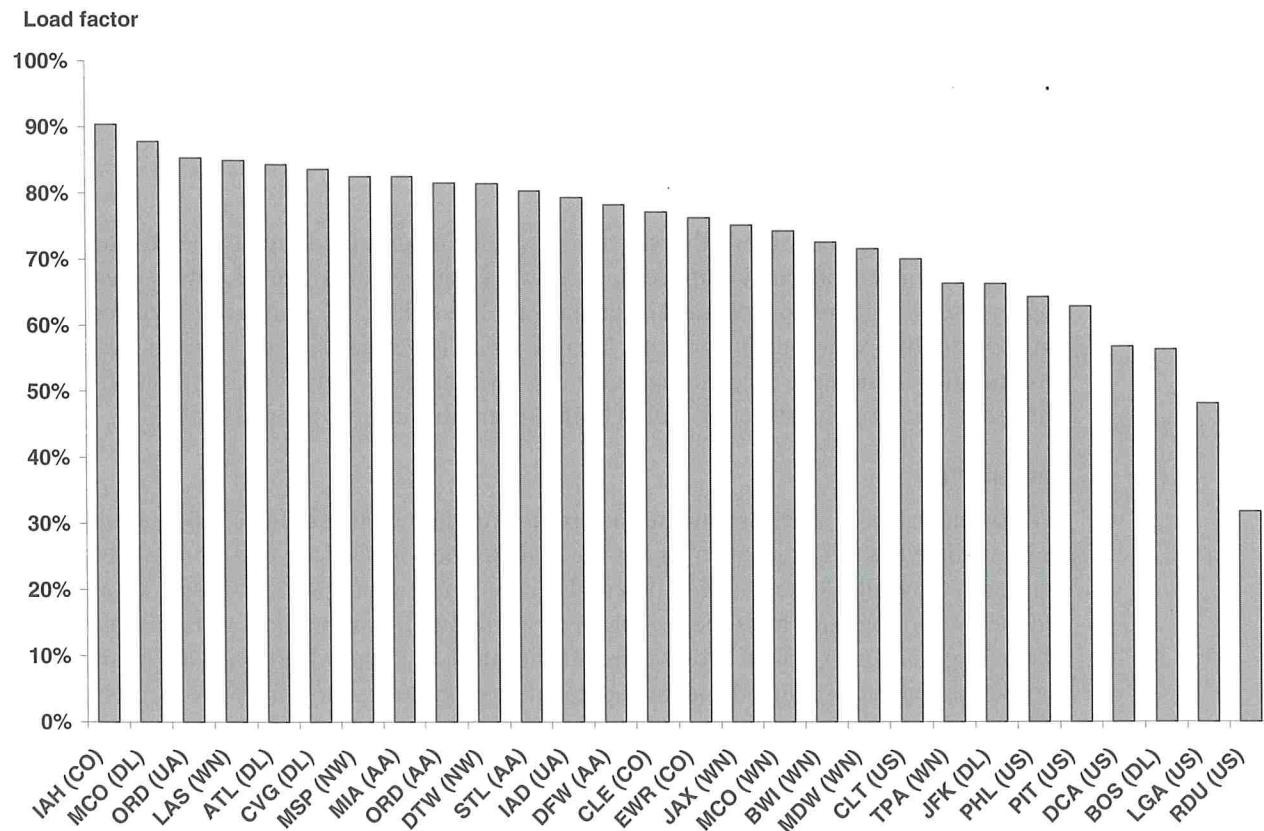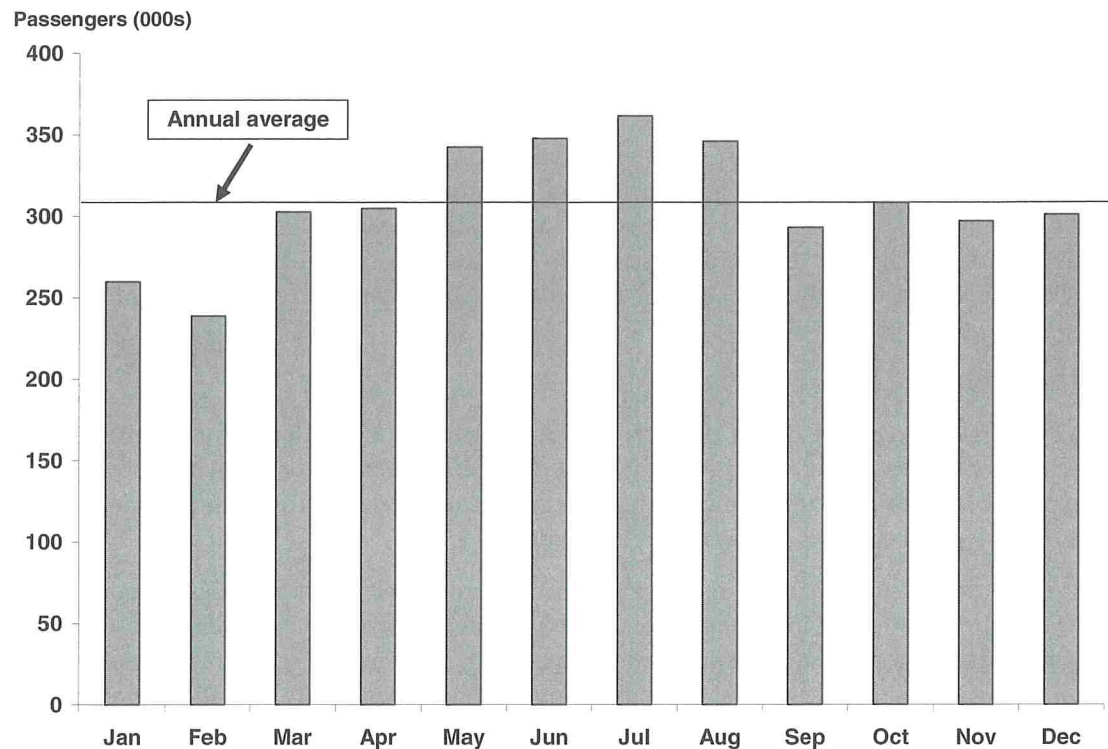

Note: Data are for the 12 months ending March 2008.

Figure 9.5.   Example of load factors by market for Norfolk, Virginia.

Passengers (000s)

Note: Data are from Norfolk, VA, for 2007.

Figure 9.6. Example of airport passenger traffic seasonality.

levels, a cost per enplaned passenger figure should be provided to the target airline, ideally with comparative figures for similarly situated airports.

Airport Infrastructure

An airline needs to be shown that the new service being proposed can be operated based on an airport's current infrastructure (e.g., runways, tarmacs, holding areas, jetways, gates) or improvements that are now planned or under way. The airlines the study team spoke with did not consider this to be a major priority, because it was largely considered a "given" that small communities would have adequate available runways and gates. However, information on any planned or potential construction would be important to convey to a target airline.

Availability

To begin service in a targeted market, an airline must know what facilities will be available on an immediate basis (i.e., prior to and at the inauguration of service), and, to the extent that changes to the available facilities are contemplated, on a near-term (perhaps three to six months) and medium-/long-term basis (beyond three to six months). Communicating facility availability to a target airline is critical because aircraft allocation, staffing, advertising, and financing of the operation must be planned and must occur at specific intervals to ensure the successful start of the new route.

Construction Plans

If airport infrastructure improvements are planned or under way, the target airline must be aware of those activities so it can understand the likely impact of those activities on its potential new service. The issues to be discussed with the airline include (1) the timing and location of the

improvements; (2) the impact of the improvements on the target airline's operations; (3) overall funding availability; (4) the target airline's contributions to the improvements; and (5) total other carrier contributions.

Airport Slots

If the airport is proposing new service into a slot-controlled airport, it should recognize that the targeted airline will face an additional complication beyond the normal route forecasting issues. For every flight added at such an airport, another one must be removed, thus making the route's forecast financial results much more critical—an airline will not replace a more profitable flight with one that is less so. Fortunately, there are only a few slot-controlled airports in this country, and with the exception of the New York City area, they are located in regions that have other major non-controlled airports nearby that could meet a small community's service needs almost, if not equally, as well.

Incentives

Incentives or fee waivers have become an accepted fact of life for airports of all sizes trying to attract new service. For example, an airport may waive landing fees and terminal rental fees for the first year of service to defray start-up costs. Clearly, the type of service being sought and the size of the airport will directly affect the amount of waivers that target airlines will want to receive. These waivers are usually offered during an airline's first year of service in a target market, and they provide help to offset some of the financial risk that the airline assumes while the market grows.

The airport should include as part of its presentation a discussion of the incentive program or the greater ASD effort and whether the service being sought would qualify.

Detailed Route Forecast

The route forecast is a critically important part of any proposal that will be presented to a target airline. It represents the culmination of the analysis that the ASD team has completed. It is an airport's best estimate of how successful the new service will be. It essentially tells the airline how the new service could be operated, how it would compare to similar services by that or another airline, what the operational and financial assumptions and results would be, and whether it would be a meaningful contributor to an airline's bottom line.

Thus, the final major component of building a realistic and compelling case to present to the airlines requires ASD teams to prepare the detailed route forecast. There are eight critical elements of that forecast: the proposed schedule, the aircraft type, a comparison to similar new markets, operating assumptions, financial assumptions, forecast operating results, forecast financial results, and a financial sensitivity analysis.

Proposed Schedule

To illustrate the community's desired departure and arrival times and indicate a basic understanding of the target airline's operations, the route forecast should include proposed times of each flight in the target market (in both directions), as well as any potential connections at a hub airport, if appropriate. Figure 9.7, for example, illustrates the potential connections—with departing times—of a flight from Baton Rouge Metropolitan Airport (BTR) to Denver International Airport (DEN).

Aircraft Type

This part of the route forecast should include the aircraft type, the seating capacity, and the seating configuration (classes of service) of the aircraft projected to operate in the target market.

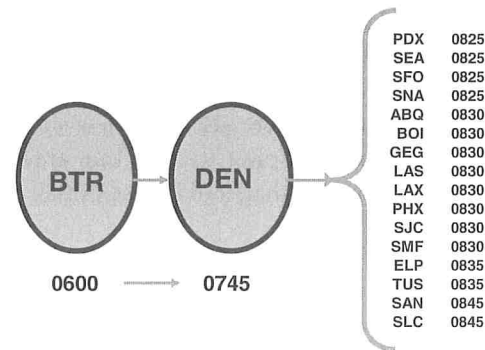| Flight	Origin	Destination	Depart	Arrive
9901	BTR	DEN	600	745
9003	BTR	DEN	1430	1615
9002	DEN	BTR	1035	1400
9004	DEN	BTR	1900	2225

Figure 9.7. Potential connections for new service.

This level of detail indicates to the target airline that the community has researched the appropriate capacity/frequency mix for the target market and understands the airline's operating philosophy in markets with similar traffic and operational characteristics.

Comparison to Similar New Markets

This part of the route forecast should include a comparison of the proposed route to similar routes flown by the target airline to strengthen the case for the target market. This route comparison would show the frequency of service offered, the aircraft type flown in each market, the destinations served from each market, and the load factors achieved in each market for the relevant time period to emphasize the strength of the proposed service.

In essence, a community would be asking the target airline to apply the same fundamental operating formula to the proposed market that it uses in similar communities. The theory is that it is usually easier to convince an airline to replicate the type of service that it has in place in similar markets than it is to successfully argue that a new operating formula should be devised.

Operating Assumptions

This part of the route forecast should include multiple critical operating assumptions so that the airline understands the basis for the ASD team's estimates and can better compare those assumptions with those it makes internally. These assumptions should include the following:

- The base year for O&D traffic
- The forecast year for O&D traffic (reflecting the first year of operations in the target market)
- Projected market growth rates
- Any "stimulation rates" (reflecting growth beyond normal rates due to the start of new or additional service and/or the introduction of lower fares, in the target market)
- Any adjustment to account for traffic in international markets carried on foreign carriers that is not reported to the U.S.DOT
- The projected departure completion factor—that is, the percentage of all departures that the ASD team projects that the airline will complete during the year

Financial Assumptions

As with the operating assumptions, this part of the route forecast should describe the critical financial assumptions made so that the airline understands the basis for the ASD team's estimates and can better compare those assumptions with those it makes internally. These financial assumptions include the following:

• The base year for fares
• The forecast year for fares (reflecting the first year of operations in the target market)
• Any fare adjustment factors (such as a fare premium for a market's first nonstop service or a fare reduction to reflect the introduction of new LCC service in the market)
• The source of the data (e.g., U.S.DOT's Form 41 database) and base year for direct and indirect costs
• Any cost adjustment factors (such as revisions to one or more cost elements—such as fuel or salaries—to account for known or expected cost changes since the base year)

Forecast Operating Results

This part of the route forecast shows the projected summary operating results for the target market. Key elements include the following:

• Local and connecting passengers
• Departures flown
• Revenue passenger miles (RPMs) and available seat miles (ASMs)
• Projected load factor (percentage of seats filled)
• Target airline's route market share
• Traffic diversion off of existing flights or services, if any

Forecast Financial Results

This part of the route forecast shows the projected summary operating results for the target market. Key elements include the following:

• Daily and annual passenger and freight/cargo revenues
• Daily and annual direct and indirect expenses
• Daily and annual operating profit
• Projected yield (passenger revenue per RPM)
• Passenger revenue per ASM (RASM)
• Cost (total operating expense) per ASM (CASM)
• Breakeven load factor (percentage of seats required to be filled for passenger revenues to equal operating expenses)
• Contributory beyond revenues, that is, revenues associated with additional passengers carried on connecting market sectors as a result of new service in the target market

Financial Sensitivity Analysis

The final part of the route forecast should include the impact of potential changes in the forecast RASM and/or CASM on the airline's forecast operating margin in the target market, if the actual operating and financial results should differ from the forecast. For example, as shown in Table 9.1, the "base case" assumption is that a carrier's CASM will be 13.85 cents, and it will earn an average yield of 20.39 cents, producing an estimated operating margin of 11.0 percent. The sensitivity analysis shows that if the CASM rose 5 percent to 14.54 cents and the yield did not change, the estimated operating margin would fall to 6.6 percent. If CASM was 14.54 cents and yield fell 5 percent to 19.47 cents, the operating margin would drop to an estimated 1.9 percent.

Table 9.1. Example of operating margin sensitivity matrix.

		Yield / RPM				
		-10% 18.35	-5% 19.47	0% 20.39	5% 21.41	10% 22.42
CASM	10% 15.23	-8.2%	-2.8%	2.1%	6.5%	10.6%
	5% 14.54	-3.3%	1.9%	6.6%	10.8%	14.7%
	0% 13.85	1.7%	6.6%	**11.0%**	15.0%	18.7%
	-5% 13.16	6.6%	11.2%	15.5%	19.3%	22.8%
	-10% 12.46	11.5%	15.9%	19.9%	23.5%	26.9%

How should the information for presentations to airlines be organized?

Presentations should be tailored to match the type of meeting that is taking place with the airline representative. The depth of analysis can vary from airline to airline, so it is important to clearly understand your audience. Some of this information may be generic in nature and can be cross-utilized in other airline presentations, while other information should be highly customized for the target airline in question. Generally speaking, the more advanced the talks, the greater the level of specificity that should be included in the presentation.

Many ASD teams struggle to organize material in a manner that flows logically. Following is a general guideline for the main topics that are typically covered in an ASD presentation. These presentations can vary depending on the length and objective of the meeting. Meetings at industry conferences such as JumpStart or Network are limited to 20 to 25 minutes, so a general rule would be to include no more than one slide per minute. Airline headquarters meetings are typically 60 to 90 minutes long, allowing greater depth in presenting the ASD team's business case.

One option for presentation organization

Figure 9.a is an example of a cover for an airline presentation. ASD team presentations to airlines can be organized in many ways. The following is one option.

Overview: General introduction to the airport and its catchment area. Highlight the things that make the airport special or different.

Core demographic and economic information: Define the core catchment area population. Highlight demographic and economic metrics such as per capita income, retail sales, unemployment rates, etc. Focus on the factors in which the catchment area performs better than the U.S. national average and/or nearby competing airport catchment areas. Convince the airline that this market offers them the best opportunity for their next available aircraft.

Local business development: Point out key business developments in the community, particularly with the area's largest employers. Discuss new economic activity and job growth. If the area is a leisure destination, highlight issues such as growth in hotel rooms, occupancy rates, and visitor arrivals.

Traffic developments: Highlight the airport's traffic growth trends. Provide at least five years of traffic statistics to illustrate trends. If passenger leakage is a significant problem, offer evidence in support of the market's true demand.

Route opportunities: Provide the compelling business case for the specific route(s) targeted for new or enhanced service. Provide projections and forecasts of passenger traffic, with yields or fares and revenues. Highlight business relationships between the city pairs.

Incentive program: If the airport has an established incentive program, provide a high-level overview of the program and highlight how the proposed new service could qualify.

Airport developments/improvements: Tout the capital improvement projects that have recently been completed and/or are under way. Highlight airfield and terminal improvements.

Conclusions: Propose next steps, ranging from a follow-up conference call to an in-person meeting. If the meeting occurs at an industry conference such as Network or JumpStart, try to secure a follow-up meeting at the airline's headquarters.
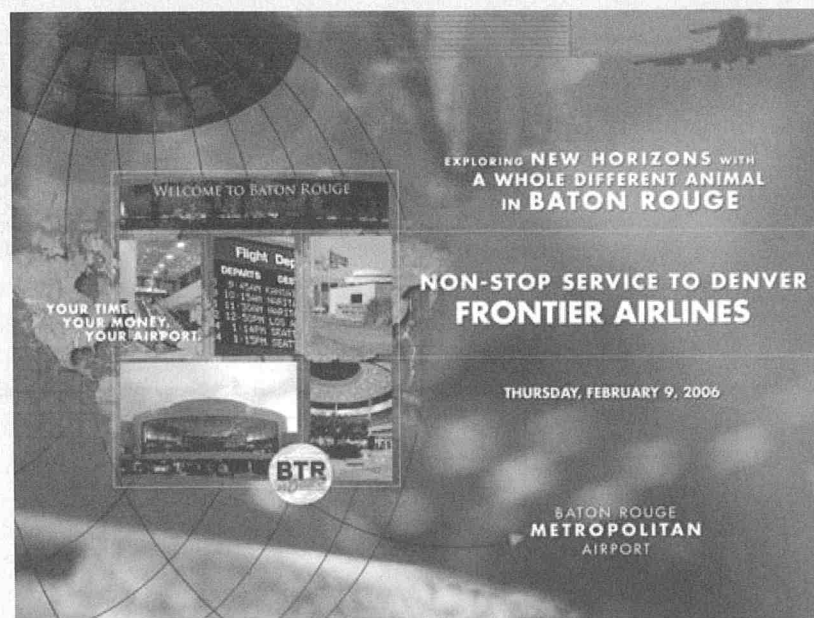

Figure 9.a.   Cover of a Baton Rouge Metropolitan Airport presentation to Frontier Airlines.

How should an airline be approached?

Figure 9.8 illustrates a common process that airports go through when approaching an airline for developing new service. It is important to remember that attracting airline service is not a "one shot" event. Making an initial contact with an airline at an industry conference, and then following up with the airlines at a headquarters meeting, can be a fruitful approach. Securing air service may require a prolonged effort: a number of industry conferences and headquarters meetings may be required. Therefore, airports (and community groups) need to adjust their expectations accordingly and focus on establishing a rapport with the targeted airline. The initial meeting is the first step in a process that may take a number of months or years.

ASD-Related Conferences

When a community is interested in attracting a new airline to serve its airport, the first point of contact is frequently an airline industry conference. These conferences provide an efficient way for airports and airlines to interact. The conferences provide a forum for short 20- to 25-minute sessions between airports and airlines. At those sessions, airports have the opportunity to present an overview of their arguments to airlines on why new service may make good business sense. However, airlines may decline an airport's request for a meeting. They may have higher priority meetings with other airports. Also, certain airlines, such as Allegiant, have chosen to host their own invitation-only conferences.

Generally, airlines and conference organizers prefer that an airport's delegation not exceed two people, given the relatively short duration of the meetings. The ASD manager and the ASD consultant (if any) can present the relevant information.
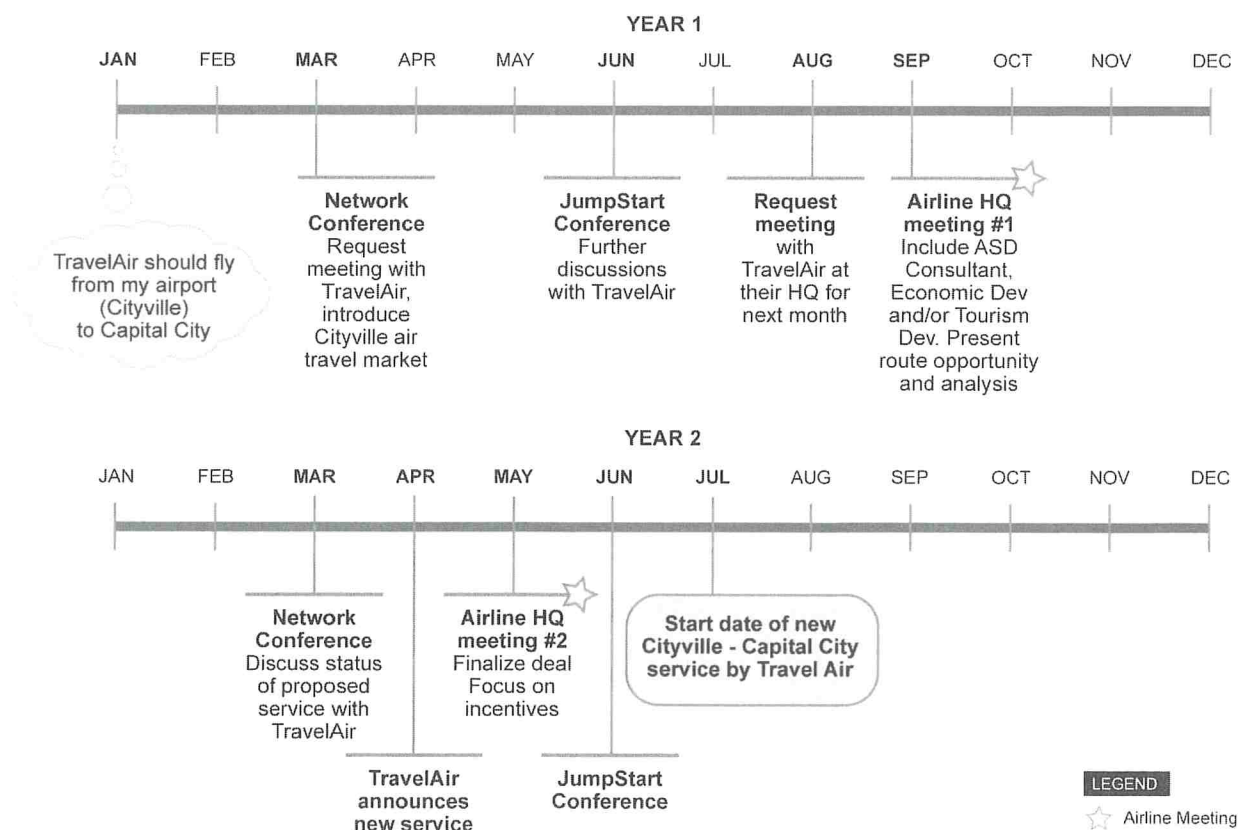

Figure 9.8.   Sample ASD timeline.

Most small airports cannot afford the time or the budget to attend every conference that is available. Therefore, they must choose which conferences to attend, based on their ASD objectives and budgetary constraints. Each conference has a slightly different nuance and target audience.

ACI-NA JumpStart

JumpStart was launched in 1997 as a means for smaller airports to meet with multiple airlines in a conference setting. JumpStart is overseen by Airports Council International–North America (ACI-NA) and occurs each June. The conference focuses on North American airlines and airports, although the breadth of attendees has grown to include some international airlines and airports. Smaller airports generally regard JumpStart as their opportunity to interact with major U.S. and Canadian carriers. A majority of small hub airports that were surveyed reported that they met with airlines at JumpStart, but less than half of the non-hub airports reported meeting airlines there.

Network

Network USA has been in existence since 2001. This conference is organized by Flight International, based in the United Kingdom. The focus of Network is North America, with increasing participation by international airlines and airports from outside the region. The March 2008 conference attracted over 120 airports and 65 airline planners, resulting in more than 1,000 one-on-one meetings.

American Association of Airport Executives

The AAAE conducts theme-focused conferences and events throughout the calendar year. These conferences are usually targeted at the regional level and focus more on airport operational issues than on air service development. The Great Lakes Chapter of AAAE usually hosts an annual ASD workshop. On occasion, AAAE and ACI-NA work together to organize a conference or event.

Headquarters Meetings

Most of the airports surveyed reported that they presented their cases to the airlines directly at headquarters meetings, typically following initial contact at an industry conference.

One of the challenging but strategically important aspects of setting up a business meeting between the airport and the targeted airline is deciding on the composition of the team. The nature and number of team members can vary depending on how advanced discussions with the airline have become.

It is important to include information from the key stakeholders in the community, but not all stakeholders need to be present. Their information can be represented by an official from the local economic development agency or convention/tourism authority. However, the team should be strategically matched to the nature of the meeting. Representatives from the corporate community can be tactical additions to meetings with either incumbent or new entrant carriers.

People to Include

People who should be considered for being on the team for airline headquarters meetings include the following:

- ASD manager
- Airport director
- ASD consultant
- Representative from economic development agency (or equivalent)
- Representative from tourism authority (or equivalent)

Generally, airlines prefer that an airport's delegation not exceed three or four people. Meetings are typically less than two hours long.

Non-hub and small hub airports in the survey said that they often brought the following with them:

- Airport director or manager
- Consultant(s)
- Other airport official(s)
- Outside marketing professional
- Local elected officials (e.g., the mayor)

People Not to Include

Deciding who not to include can be difficult. Many airport employees are city employees. How does one say "no" to the mayor?

Those who will add relatively little information not provided by other team members should be excluded. The relevant question is, What will it take to convince this airline to serve the community, and who can best assist in making that argument? Generally speaking, from the airlines' perspective, elected officials are not considered to be helpful participants in a meeting. Political support can assist with finalizing the deal, but not in earlier discussions with the airline.

When asked who they thought should attend meetings to discuss new or improved air service, air carriers said the following:

- Airport director or manager
- Consultant
- **Not** the local chamber of commerce (regarded as little more than a "cheerleader" for the community)
- **Not** the mayor (regarded as generally adding no substance to the meeting)

Appropriate Follow-up

Effective communication is essential for successful air service development. The ASD process depends on building strong relationships with current and prospective airlines. A critical part of this is establishing and maintaining an open and ongoing dialogue with key airline planners.

Year-Round Contact

The ASD strategy should include consistent attendance at industry events and on-site airline headquarters meetings. It is important to remain on the radar screen of incumbent airlines, and to get on the radar screen of prospective airlines. Active participation in industry events and conferences can greatly assist in these efforts.

It is important to gauge the level of interest of an airline in serving the airport and adjust goals and strategies accordingly, as repeated emails and phone calls could be counterproductive.

On-Site Headquarters Meetings

On-site headquarters meetings with incumbent carriers should not occur more frequently than once per year, and not less than once every two years. Such a frequency of face-to-face visits, supplemented by occasional telephone calls and email exchanges, should keep the airport abreast of key events at the airline and within the industry as a whole. The airport should prepare a formal presentation for this meeting, and the ASD consultant can assist in this task. Airline headquarters meetings generally last 60 to 90 minutes, so presentations that do not exceed 45 minutes allow ample time for discussion.

Appropriate Budget

Each airport should develop an ASD communication and travel strategy that matches the airport's budget. By analyzing the goals that the airport has set forth, the ASD team can weigh which carriers merit a headquarters meeting, which can be met at conferences, and which can be communicated with via phone and email.

Final Negotiations

During the course of negotiations, the subject of incentives will likely arise. The increased competition among airports has resulted in airlines expecting that some type of incentive assistance will be provided to help offset start-up costs and enhance a carrier's brand recognition in the ASD team's market.

Once an airline has firmly established an interest in serving the ASD team's market, and perhaps even proposed a start-up date for the services, some negotiations may be necessary to agree upon the final details. Once an airline has bought into the business case to serve a particular route, the final details usually hinge on how to minimize costs and support marketing efforts.

Summary

- Airlines are particularly interested in learning new information on the factors that underlie the actual or potential demand that an area may support, including demographic and economic data. Airport cost information is also important.
- The route forecast is an important part of any proposal that will be presented to a target airline. It represents an airport's best estimate of how successful the new service will be. It essentially tells the airline how the new service could be operated, what the operational and financial assumptions and results would be, and whether it would be a meaningful contributor to an airline's bottom line.
- Industry events and conferences provide year-round opportunities to interact with airlines and strengthen communication.
- ASD teams should recognize the strategic importance of who they take to the meetings with airlines, whether at a conference or the airline's headquarters.

Evaluating and Improving ASD Efforts

The final step in the cycle of ASD efforts is an evaluation of what has been accomplished. Such an assessment would provide a systematic, critical, and unbiased review and appraisal of the methods and procedures used, as well as the results obtained. Before starting a new ASD effort—whether pursuing expanded service with the same carrier, a different carrier to a different destination, or a yet-to-be-defined alternative, ASD teams must ask: What worked and what did not?

Why is evaluation so important?

Sound program management requires an evaluation to improve and build upon past efforts.

The evaluation step is often overlooked as part of any program. But sound program management requires an evaluation to improve and build upon past efforts, whether they were successful or not. This evaluation should not be an exercise in assessing blame; rather, it is a critical component of the planning process and refining future ASD efforts, as shown in Figure 10.1.

Evaluation "closes the loop" with the planning and implementation cycle. Measurement allows for improvement.

How is effectiveness in ASD measured?

Measurement allows for improvement.

Measuring the effectiveness of an air service initiative is conceptually straightforward, but can be very difficult to accomplish. The ASD program is generally gauged against the overall ASD goal. The basic conceptual question is: Was the airport's ASD program responsible for the outcome, or were some other intervening factors major contributors? (See Figure 10.2.) Essentially, there are three key components needed to determine whether an ASD technique worked effectively or not: knowing exactly what the objectives were, measuring the outcomes, and accounting for any other factors that may have contributed to or detracted from the efforts.

Additionally, it is important to quantify the relative cost-effectiveness of the ASD program. No airport or community has an unlimited pool of resources that it can apply toward air service development. Each community (or airport, if no community funds are at risk) has to decide what the limits are on its investment in air service and what return on investment it considers adequate.

Rigorous evaluations can become major econometric and financial studies. The study team is not presuming to describe in detail how an airport would conduct such a detailed analysis. To the extent that an airport or community is particularly interested in pursuing one, the study team would suggest engaging the assistance of the economics or business department of a local university, which might be able to help with the modeling as a teaching device.
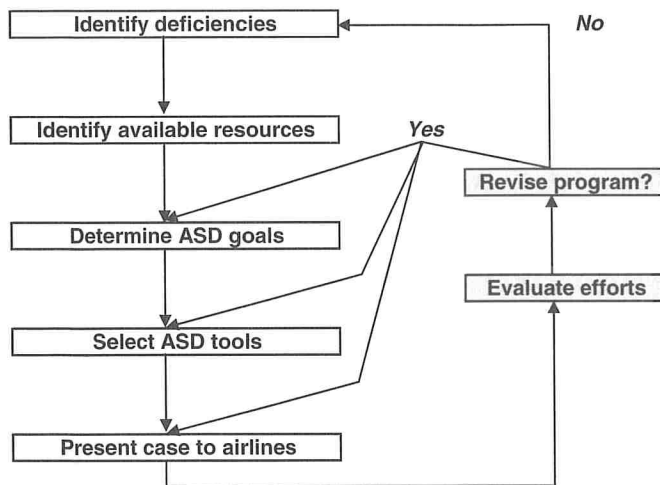
Figure 10.1.   Summary of the ASD process.

Objectives

Most ASD programs have relatively straightforward goals or objectives (e.g., adding service to a new hub). As discussed in Chapter 7, other commonly used objectives include the following:

- Retaining existing service
- Adding service to a new destination
- Adding frequencies to current services
- Lowering fares/introducing new competitive service
- Improving service reliability
- Upgrading aircraft
- Increasing access to global networks

Progress toward these types of goals is easily measured. Other goals—such as decreasing the amount of passengers leaked through various marketing efforts—can require more complicated measurement to determine how well the effort succeeded.

Other possible criteria against which the effectiveness of ASD programs is sometimes judged are not included here. For example, several airports reported that their programs were successful in part because their staff learned how to better plan and implement ASD efforts. Although that may be valuable, unless professional development was one of the formal ASD goals, judging a program on that basis would not be appropriate.
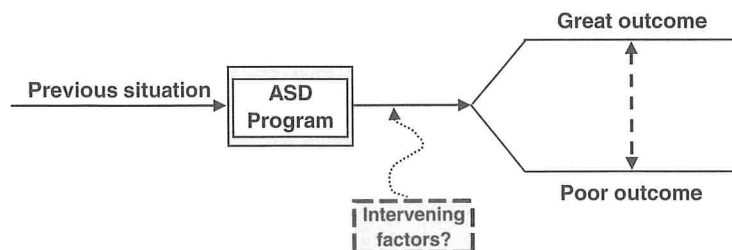

Figure 10.2.   Conceptual overview of an evaluation methodology.

Measuring Outcomes

With the types of goals and objectives noted previously, measuring the eventual outcomes is relatively simple. Most common operational data will give a general sense of how the ASD program worked. (See Table 10.1) These data are available from the operating carriers and from U.S.DOT (see Chapter 5).

For example, if a program's objective was to add service from a new network carrier to improve passenger flows to a different part of the country or to add competition in one-stop markets, the most obvious measure is the total number of nonstop destinations served. The airport would also want to record the total number of (daily or weekly) departures, as well as some indication of the total available outbound or inbound capacity, reflected in the number of available seats.

Additional Measures

Coupled with gaining the new service is how passengers reacted to the service. This evaluation would provide important feedback on the assumptions used in the business case (e.g., what the likely passenger response to new service over a particular hub would be, whether the new service would stimulate new travel or help re-capture traffic that was previously leaked to a nearby competing airport). For example:

It is vitally important to:
- *Examine how passengers reacted to the new service*
- *Consider the effects of any ASD program on the incumbent carriers.*

- Did the service attract the number of passengers expected? What were the passenger loads?
- Did the service help reduce passenger leakage to other airports?
- Is the business–leisure mix as anticipated?
- How do fares in connecting markets compare to those available before the service started?

Considering the importance of maintaining existing service, particularly in difficult economic times, it is vitally important that the effects of any ASD program be considered on the incumbent carriers:

- Did service to the new hub shift passengers from the incumbent's connecting service?
- What happened to their load factors?

Regardless of the airport's goals or objectives, the key point to remember is that changes need to be measured that occurred not only with the targeted airline, but also with all traffic and service at the airport. Introducing any change in service may produce "ripple effects" on other car-

Table 10.1. ASD objectives and primary measures of effectiveness.

Goal/Objective	Principal Outcome Measures
Retaining existing service	Departures Available seats
Service from new entrant network carrier	Nonstop destinations served Departures Available seats
Adding frequencies	Departures
Lowering fares	Average fares
Increasing access to global networks	Trips with an international segment
Improving service reliability	Departures performed vs. scheduled On-time departures On-time arrivals
Upgrading type of aircraft	Available seats

riers' service and passenger traffic. A full accounting of the results of the ASD program needs to incorporate considerations of those effects as well.

Financial Measures

Evaluation of the results of the ASD efforts should include a financial component. At even a relatively high level, the total cost per additional passenger or operation should be able to be calculated. That "net cost" should include offsetting revenues derived from increased traveler spending on any concessions and parking.

At the same time, it's also important to bear in mind that air service is producing a significant economic impact on the community and region. There is a "multiplier effect" of dollars spent by both business and leisure travel. This effect is one reason why communities are willing to invest in attracting and retaining air service. For example, according to the Air Transport Association, the trade association that represents most large U.S. airlines, in 2005, every $100 in civil aviation–related output generated an additional $275 in additional demand, and every 100 civil aviation jobs generated 314 jobs in other industries. ATA's estimates were based on information and a model from the U.S. Department of Commerce, Bureau of Economic Analysis.

> **Survey results**
>
> Roughly half of the airports that were surveyed reported that they also tracked financial effects of their ASD efforts. Measures were both revenue and cost related. For example, several tracked parking revenues and spending on concessions that correspond with changes in enplanements. Some tracked airport costs per enplaned passenger.

Challenges in Measuring the Outcomes of Marketing Efforts

Many airports' ASD goals are linked to a marketing campaign. Several airports surveyed had engaged in various marketing efforts to re-capture a greater share of passengers that they were losing to nearby airports. Others were promoting service by a new carrier—whether a mainline carrier, regional affiliate, or a niche carrier such as Allegiant. Airports also have tried to boost their local enplanements by marketing their own unique advantages and potential costs savings to travelers. For small airports these strengths might be free or inexpensive parking or the ease of traveling from an uncongested airport.

Evaluating marketing efforts can be complicated. On the one hand, airports can simply track total enplanements to see if the number of passengers increased after the marketing began. That would provide a high-level measure of the result. Airports would probably want to get more in-depth information, however. Marketing is often directed at a specific market segment, so the airport would want to understand the extent to which they reached those audiences, and whether the message achieved the intended effect.

For example, an airport—perhaps working in conjunction with a local resort or attraction—may decide that it would like to boost inbound traffic, which could be either business or leisure traffic. One market may focus on inbound leisure travel (e.g., Moab, Utah), while another may target luxury leisure travelers in conjunction with local resorts. For example, Hailey, Idaho, allocated $175,000 for marketing, including direct sales, direct mail, print advertising, Internet marketing, and radio advertising. Marketing was to be targeted at people living in the Los Angeles area who may be interested in visiting nearby Sun Valley and residents in the Sun Valley area who may be interested in traveling to Los Angeles for business or personal reasons.

Sustained Changes

The ASD team may have succeeded in attracting new service, but that may not mean that the ASD program was an unqualified success. Did the service become self-sustaining without financial assistance?

The U.S.DOT Office of Inspector General and GAO generally regard a program as being successful if the benefits (whether increased enplanements or new service) were sustained for 12 months. If the benefits were sustained for less than that, U.S.DOT regards the program as a "partial success."
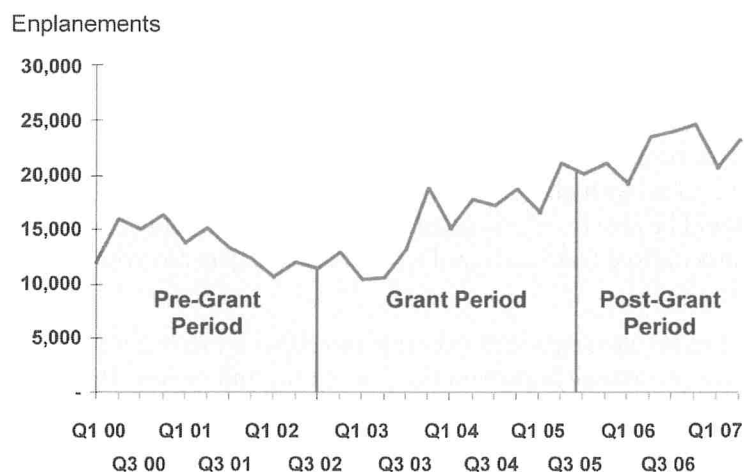
Enplanements

Data from U.S.DOT (*11*).

Figure 10.3.   U.S.DOT example of using enplanement data to evaluate ASD effort.

U.S.DOT provided an example of what it considers to be a "successful" case study where a community attracted an additional carrier to serve a different hub, and illustrated the effects of new service with passenger enplanement and flight activity data (*11*). Figures 10.3 and 10.4 show enplanement and operations data from the U.S.DOT report that illustrate successful ASD efforts.

In cases where the benefits disappeared at the end of the financial assistance, U.S.DOT considers those programs to be "failures." It is difficult to disagree with that characterization. The service may have existed for some months and some in the community may have benefited from the service while it operated. But the bottom line is that the airport and the community invested great time and effort into attracting service that, for whatever reason, was not commercially viable.

Several of the airports that participated in this project lost service during 2008. However, most small community airports lost service during the year. Some of that service had been in place for several years. Compared to November 2007, nearly every airport in the United States lost some service by fall 2008, according to schedules filed with the Official Airline Guide (OAG). Given

Flight Activity
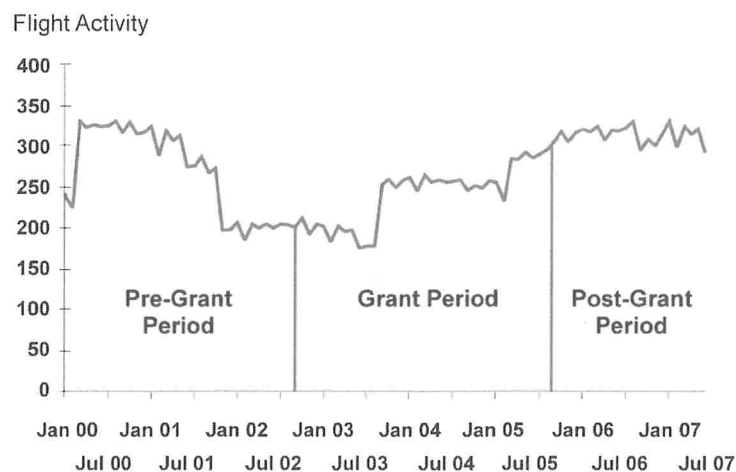
Data from U.S.DOT (*11*).

Figure 10.4.   U.S.DOT example of using operations data to evaluate ASD effort.

the volatility in fuel prices and the overall downturn in the national economy, these losses can hardly be considered a reflection on the airports' ASD programs.

Questions About Causality

Airports and communities naturally want to attribute positive outcomes to their efforts and negative outcomes to external events. More often than not, any outcome is the result of both. There are only so many events that are under the control or influence of the airport and the local community. With airline economics tied to national economic conditions, any significant change in a major external factor can affect passenger demand and revenues in a market.

What is most important for airports to understand is that what may work well at one point in time may not work at another time, because of external forces. Several airports have lost service recently, despite long and productive ASD programs. In a number of markets [e.g., Daytona Beach, Bakersfield (CA), Baton Rouge], carriers discontinued service not because of anything that the airport may or may not have done, but because of a combination of factors, especially the increase in fuel prices.

Who should conduct the evaluation?

Most people have some difficulty objectively assessing their own efforts. People either tend to be too hard on themselves or they tend to regard their efforts as far better than third parties might have gauged.

Ideally, the ASD effort should be evaluated by someone not directly associated with its design and implementation—a neutral third party would be best. But most small airports do not have sufficient staff resources with the time and capabilities to design and implement a rigorous evaluation. Who performs the evaluation then is an issue that each airport will have to handle internally, depending on its size and organization. Smaller airports will have little choice in what staff would be assigned the responsibility. Larger airports may want to ask in-house objective staff to do the evaluation.

Airlines' financial conditions are tied to national economic conditions. Changes in the larger economy will affect passenger demand and revenues.

Airports and communities need to understand that what might have worked at one time in one place may not work as well at another time, due to external forces.

CASE STUDY
Taos, New Mexico's less successful efforts

In 2002, Taos Regional Airport spent over $265,000 for advertising and promotion of its service by Rio Grande Air to Albuquerque using nine-seat Cessna Caravans, which had operated at Taos since 1999. (The service was also supported by a SCASDP grant, which helped fund a revenue guarantee.) The advertising and promotion component included billboards, newspapers, magazines, television, and radio advertisements. The advertising and promotion program was used to target the visitors who drive to the area, business travelers, and in-state tourists.

Rio Grande continued to provide service to Albuquerque until June 2004, when the airline discontinued operations due to bankruptcy. An airline offi-

cial from Rio Grande Air reported that the community's support had not sustained after the SCASDP funding was completed. But he also reported that there were many setbacks that the grant could not control, such as a drought in the region leading to a weak ski season, a major forest fire that caused a drop in enplanements, and a drop in the overall economy.

This case study illustrates the role of external factors in affecting the viability of air service. The marketing may have reached its target audience for some period of time; however, because airline profitability is often fragile (especially with small start-up airlines), external events can have a major effect on the commercial viability of service.

Survey results

The study team asked each airport to assess the effectiveness of its ASD efforts on a scale of 0 to 100. The average self-assessment score was 80. However, nearly three out of four respondents gave themselves a score of 100. There was little difference among non-hub and small hub airports. Of the 41 airports surveyed, 40 indicated that the ASD technique(s) they used were appropriate.

Ideally, an evaluation would be completed by a neutral third party not directly involved with the ASD program's design or implementation.

An annual evaluation is suggested, after which the airport and community can assess whether to revise its plans.

Marketing efforts may be particularly difficult to assess. Determining the extent to which various advertising or marketing campaigns produced a desired effect may require some form of passenger survey. Although some smaller airports may have staff capable of designing, implementing, and analyzing surveys, most small airports contract out for their marketing campaigns. The study team would strongly suggest including some evaluation or feedback as part of the contract. Professional marketing firms are better able to survey target markets to determine the penetration of their messages. University economics and business departments also may be able to provide some assistance.

When should an evaluation be conducted?

Airports and communities must stay attuned to the aviation industry. Significant events can unfold rapidly, and communities need to be prepared to act accordingly. Therefore, airports and communities may need to reassess their goals and strategies on an ongoing basis, as circumstances warrant. Changes in the overall national economy, soaring or fluctuating fuel prices, decreases in capacity, and bankruptcies are ongoing issues with significant implications for an airport. It is most valuable for an airport to track its various air service performance measures regularly, as the data become available, so that it can base decisions on current information regarding how the services are operating and passengers are responding.

There are two competing considerations to weigh with any evaluation. On the one hand, ASD efforts should be evaluated on an ongoing basis. Practically speaking, if some aspect of the program is simply not working, it makes no sense to wait several months to make adjustments.

On the other hand, ASD initiatives and service improvement efforts can take several months to develop. It also can take additional time for any change to be recognized and acted on by the traveling public. Travel patterns and habits can be very difficult to alter. (This reality is the underlying basis for establishing travel banks and minimum revenue guarantees.) Evaluations may need to allow several months for the public to understand and appreciate the differences in service options that are available at the airport before they accept and act on them.

This time lag between service change and public reaction is particularly true if the goal was to improve the reliability of service. Several months may be necessary first to determine whether the service has in fact improved noticeably and then confirm that any improvement is not transitory. How passengers react to improved service reliability can be even more difficult to assess. Many passengers who feel as if they were stranded or delayed "one time too often" may be reluctant to use the service for quite some time.

Ongoing evaluations will thus inevitably be preliminary. It would not be fair to judge the results before the service has had time to mature. The study team suggests an annual evaluation after which the airport and the community can fully assess the effectiveness of the ASD program and begin to make new or revised plans.

Why do stakeholders need to be informed?

Stakeholders—particularly those who have invested time and resources into the ASD program—deserve to understand how well the ASD effort worked, and whether adjustments will be needed.

Keeping them informed helps ground their expectations of progress toward ASD goals and addressing the underlying problems and competitive challenges. Many stakeholders who are not as involved in the aviation industry as officials at the airport are may have only a general perception of developments in the industry and will need information from the airport on industry trends and how they may affect local air service needs. Many communities will not be aware of changes in relationships among regional and mainline carriers, fleet development, or the effect of fuel prices on RJs.

Being able to update stakeholders on the results of efforts will help the ASD team consider whether alternative ASD techniques might be more effective in the future. Depending on the reaction of carriers to the last efforts, for example, the ASD team might want to consider additional "revenue-side" ASD techniques (if the carriers' concerns focused more on the weak economy) or on the "cost side" (if demand seemed adequate, but the carriers still held concerns about potential losses during the ramp-up period).

Summary

- Evaluating results is an essential element of an ASD program, as it allows the ASD team to refine its approach.
- Several different measures of an effort's outcome should be considered. Those measures include the immediate measures (e.g., Did service start? Did the carrier use a larger aircraft?) and other measures of passenger acceptance and airport revenues generated (e.g., incremental parking fees). It is also important to assess the effects of changes on the incumbent service providers.
- Rigorously evaluating the effectiveness of marketing efforts can be quite complex. Most small airports that pursue a marketing campaign using an outside professional marketing or advertising firm should consider building some evaluation into the contract.
- Whether the service became self-sustaining is a critically important indicator of success.
- If possible, an evaluation should be done by individuals who did not directly participate in the ASD effort. Those who were involved tend to lack the objectivity that is preferable.
- Evaluation can occur on both an ongoing and periodic basis. Annual evaluations can be more formal than the preliminary ones that occur throughout the year.
- Stakeholders—particularly those that have invested time and resources into the ASD program—deserve to understand how well the ASD effort worked, and whether adjustments will be needed. Keep them informed.

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Appendices

Glossary

Air service development (ASD)—a broad term that encompasses a variety of activities with the ultimate goal of retaining existing air service or improving air access and capacity in order to develop the economy of a community or region. ASD involves all activities directly related to enhancing commercial passenger service at an airport.

Available seat mile (ASM)—a measure of air carrier capacity. ASMs are the mathematical product of the total number of seats available for sale on an aircraft times the number of miles flown.

Backhaul—the extra miles involved in a circuitous routing that takes passengers out of their way to reach their final destination. This sometimes includes flying in the opposite direction from the final destination. As an example, for passengers flying from Walla Walla first to Seattle and then on to Denver, the Walla Walla to Seattle portion of the journey is a backhaul, because they are initially flying westbound before connecting to their eastbound flight.

Catchment area—the area from which an airport draws its traffic. Catchment areas vary in size and shape, depending on physical barriers (e.g., mountains, oceans), nonstop service offerings, and competing airports. Catchment areas can be overlapping, depending on the intended destination of the passenger involved, his/her preferred routing, and the presence of nonstop service from another nearby airport.

Circuity—the degree to which a routing varies from the shortest (i.e., nonstop) distance between two points. It is measured in terms of the ratio of the total number of miles flown divided by the total nonstop miles. For example, a flight that goes from New York first to Atlanta and then to Miami is more circuitous than flying from New York to Miami nonstop.

Guaranteed ticket purchase—sometimes called a Travel Bank; a community provides funds that will be used to purchase tickets on a targeted airline worth a set amount of revenue during a given period of time. Businesses or individuals deposit funds in a bank account that can be used only for purchasing tickets on the target airline.

Hub-and-spoke—the system through which legacy network carriers connect smaller cities in the United States to the national aviation system. These carriers transport passengers on nonstop flights from various "spoke" cities into their "hubs," and then redistribute them to connecting flights for their final destinations. Depending on the amount of passenger traffic in the market between the spoke city and the hub, legacy airlines may operate their own large jets or use regional affiliate carriers to provide service, usually with regional jet or turboprop aircraft.

Incumbent—an air carrier serving an airport that has maintained service at that airport for one year or more.

In-kind assistance—products, goods, or services that otherwise might have to be paid for, but which can be donated by third-party providers instead.

JumpStart—an air service development conference sponsored by Airports Council International–North America (ACI-NA). The conference occurs in June each year and is held in conjunction with the ACI-NA marketing conference.

Leakage—the percentage of passenger traffic that could reasonably be considered to be within the catchment area of one airport that is lost to another airport.

Legacy network carrier—the major network carriers in the United States: American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, United Airlines, and US Airways. Their airline operations—in one corporate form or another—generally pre-date the deregulation of the airline industry in 1978.

Load factor—the percentage of seats that are filled on a plane. For example, a 100-seat plane carrying 82 passengers would have an 82 percent load factor.

Low-Cost Carrier (LCC)—sometimes referred to as "low-fare carriers," LCCs are airlines that tend to have unit costs that are significantly lower than the legacy network carriers. These carriers' interstate operations launched after the deregulation of the airline industry in 1978. They include Southwest Airlines, AirTran Airways, Frontier Airlines, JetBlue Airways, and Virgin America.

Mainline operations—refer to operations conducted by an airline's main operating unit (e.g., American Airlines) rather than a regional affiliate, code-share, or partner airline (e.g., American Eagle or American Connection).

Market—in the context of air service, usually defined in terms of service between a pair of cities (e.g., flights between Little Rock, AR, and Albuquerque, NM). In cases where a larger metropolitan area may be served by more than one airport, there may be separate markets for service to different airports. Flights serving LaGuardia Airport (New York City) are usually considered to be in a different market from those serving John F. Kennedy International Airport (New York City) or Long Island Islip MacArthur Airport (Islip, New York), for example. Business travelers in particular are willing to pay different amounts for service to one airport rather than the other.

Market entry—when a new carrier begins to offer service at a particular airport. Entry at an airport can cause passengers to shift away from existing travel patterns (i.e., fly on the new airline as opposed to an incumbent carrier). Market entry can also stimulate new traffic (i.e., prompt individuals to fly who would not have otherwise flown).

Minimum revenue guarantee—see revenue guarantee.

Metropolitan statistical area (MSA)—generally, a geographical entity containing a large population nucleus and adjacent communities having a high degree of social and economic integration with that nucleus. Under the 1990 metropolitan area standards, qualification of an MSA required a city with a population of 50,000 or more, or an urbanized area with a population of 50,000 or more and a total area population of at least 100,000 (75,000 in New England). MSAs are composed of entire counties, except in New England where the components are cities and towns.

Network—an air service development conference sponsored by the Flight International Group. The conference targets North American airports and the airlines that serve them. The conference occurs in March each year.

New entrant—an air carrier either attempting to begin service at an airport for the first time or one that has been providing service at an airport for less than one year. This can also apply to service by a carrier already operating at an airport but not in a particular city pair market.

Niche carrier—airlines that cater to a particular market segment, or "niche," that sometimes provide specialized services from small communities to major leisure destinations.

Non-aeronautical revenue—revenue that an airport derives from activities not associated with flight operations. Examples include car rental fees, concessionary/vending fees, parking fees, and airport business park rental fees.

Non-hub airport—the FAA's definitions of hub airports are based on statutory definitions and are not the same as the more operational definition of hubs that are applied by airlines. Federal law defines a non-hub airport as one at which less than 0.05 percent of all enplanements in the United States occur. Non-hub airports are defined in 49 USC 41731.

Origin and destination (O&D)—refers to passengers who originate from and/or are destined to a particular airport or market.

Passenger demand—an economic measure of the extent to which travelers may be willing to purchase air service at a given price/fare. Demand is a theoretical construct; it is inversely related to price. More air service is demanded at lower fares. Travelers demand less air service at higher fares.

Regional airlines—provide short- and medium-haul scheduled airline service connecting 635 U.S. communities with larger cities and hub airports operating 9- to 78-seat turboprops and 30- to 108-seat regional jets.

Revenue guarantee—agreements that establish a target amount of revenue that a carrier will receive for operating a particular service to a particular destination over a given length of time. They may be expressed as a minimum amount that will be generated from passengers (ticket sales), provided that the carrier meets certain operating requirements (e.g., completing 92 percent of their operations, with an on-time departure or arrival record of x percent).

Revenue seat miles—a measure of the amount of capacity in a market that an airline is able to sell. A related measure is the revenue per available seat mile (RASM), which is calculated by dividing the total passenger revenue generated on a flight by the total number of available seat miles.

Reverse leakage—the number or percentage of traffic that is gained by a particular airport from another (nearby) airport's catchment area.

Small community—generally, one served by an airport classified by the FAA as a small hub or a non-hub. There are 426 non-hub and small hub communities in the United States, including those in Alaska, Hawaii, and the U.S. territories.

Small Community Air Service Development Program (SCASDP)—established by Congress under the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, P.L. 106-181 (AIR-21), to help small communities enhance their air service. Administered by the U.S. Department of Transportation, the program provides grants to help small communities achieve sustainable air service. An additional goal of the program was to generate creative air service development proposals that could be implemented in other small communities.

Small hub airport—the FAA's definitions of "hub" airports are based on statutory definitions and are not the same as the more operational definition of hubs that is applied by airlines. The categories are based on the number of passengers boarding an aircraft (enplaning) for all operations of U.S. carriers in the United States. A small hub airport enplanes from 0.05 to 0.249 percent of all enplanements. Federal law defines a small hub airport at 49 USC 41731.

Stakeholder—person or entity (e.g., a business) that has a vested interest in the level of air service provided at an airport. Key stakeholders may include resident companies, economic development agencies, tourism offices, etc., within an airport's catchment area.

Subsidy—a broad category of financial incentives that generally offset some aspect of an airline's costs of operation. These can include waivers of fees or discounted landing (or other) fees during a promotional period. Cash subsidies are paid without regard to the amount of revenue

that a carrier may generate during the agreed-upon period. Subsidies are generally a fixed amount, often with no connection to the eventual profitability of the route.

T-100—operational statistical data provided by the U.S. Department of Transportation. Information is tabulated for both domestic and international operations on a monthly basis and is required to be filed by all airlines (both scheduled and non-scheduled).

Travel bank—see guaranteed ticket purchase.

Very Light Jets (VLJs)—generally, jet aircraft with a maximum take-off weight of 10,000 pounds, certified for single-pilot operations, equipped with advanced avionic systems, and priced below other business jets. Two types of these models—the Cessna Citation Mustang and Eclipse 500—have received FAA type and production certification and begun delivering aircraft.

Frequently Asked Questions

What do you mean by "air service development"?

Air service development (ASD) generally refers to a variety of activities with the ultimate goal of retaining existing air service or improving air access and capacity in order to develop the economy of a community or region. It encompasses attracting, initiating, expanding, retaining, or improving any aspect of air service to a particular airport.

ASD includes understanding the local community and what drives its economy, and recruiting community and business leaders to participate in efforts to "sell" the airport to the airlines and to the local population. It includes understanding the air service and fares that airlines offer, and how the service, fares, and facility compare to those of nearby airports. ASD also involves understanding the cost and revenue issues that influence carriers' decisions on which markets to serve. It requires understanding the flexibility an airport has in extending financial and non-financial incentives to carriers. ASD encompasses understanding what carriers value most and what they want to know about your community. It includes knowing how to make and present a sound business case to airlines.

Don't airlines just decide by themselves where to fly? What can a local community do to influence those decisions?

Airports and communities can help carriers decide whether to serve a market or not by providing them with information that they might not otherwise have had. Airlines have limited numbers of route planners, and they tend to focus more on larger markets. Airline staff may be relatively unfamiliar with changes in a local area's economy or existing air service. New or expanded businesses in an area can generate the amount and types of employment that can make air service viable. If a community does not make the effort to bring that sort of news to an airline's attention, the carrier may never learn of the opportunity or the community's unmet air service needs.

How important are incentives to airlines in deciding where to fly?

Airlines vary in the importance that they attach to financial incentives. Airlines know that financial support programs such as grants or incentives eventually end. If the market cannot sustain the service without assistance, it may not be worth the investment in time, effort, and personnel. Airlines also know that a decision to leave a market creates negative publicity and ill feelings that can be difficult or impossible to overcome, so they resist investing in marginally profitable routes. At the same time, however, many carriers look for—and now expect—a community to offer some form of financial risk-sharing in association with new service.

experienced with analyzing and presenting information, they likely could benefit from a consultant's services.

How long should ASD efforts reasonably take before producing results?

Communities should understand that ASD efforts can require well over a year and should adjust their expectations accordingly. Securing air service may require a prolonged effort—a number of industry conferences and headquarters meetings may be required. Depending on the service that a community seeks, it may need to begin by establishing a rapport with the targeted airline. The initial meeting is the first step in a process that may take a number of months or years.

Do the ASD efforts really need to be evaluated?

Evaluating results are an essential element of an ASD program, as it allows ASD teams to re-examine how well their efforts worked and decide what changes, if any, should be incorporated. There are several different measures of an effort's outcome to consider. These include both the immediate measures (e.g., Did service start? Did the carrier use a larger aircraft?), and also other measures of passenger acceptance and airport revenues generated (e.g., incremental parking fees). It is important to assess the effects of changes on the incumbent carriers.

Annotated Bibliography

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